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THE MARYLAND FARMER:

DEVOTED TO

Agriculture, Horticulture, Rural Economy & Mechanic Arts.

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THE AUGUSTA AGRICULTURAL CONGRESS.

We published in the August number of the *Farmer* an address from prominent citizens of the South interested in trade and agriculture, urging that an Agricultural Congress, to be composed of leading agriculturists, shall be held at Augusta during the State Fair which opens there on the 26th of October.

The object of the promoters of this Agricultural Congress is a praiseworthy one, and what they say in regard to "the necessity of co-operation among the agriculturists and agricultural associations of the Southern States" is undoubtedly true. Since the close of the war the South has labored under many disadvantages, but by close economy and industry her planters have succeeded in raising large crops of cotton at highly remunerative prices, whilst the area devoted to breadstuffs has also been extended.

The purpose of those gentlemen who have called the Agricultural Congress is to promote improved methods of culture in respect to cotton, to improve the labor system of the Southern States which is still sadly disorganized, and to take such measures as may be necessary to encourage a greater diversity of agricultural products.

These suggestions are all of them good, and if they were properly carried out would relieve the planters from the anxieties arising from their dependence on a profitable yield of their great staple, whilst the material interests of all the Southern States would be correspondingly advanced.

That cotton, as the staple production of all the States south of Virginia, will always be regarded as the planter's money crop, we do not for a moment doubt. At the same time we are quite as equally satisfied that an entire dependence on cotton, to the neglect of adequate supplies of breadstuffs and provisions, is a perilous thing. There are seasons when the cotton crop is injured by the rain, or by rust, or by the worm, to such an extent that the planter, instead of being remunerated for his labor, is actually crippled by the losses which he thus sustains. But these losses would scarcely be felt, and indeed might be partially compensated if he could fall back

on a good supply of breadstuffs and provisions. These would at least "tide him over" until another and perhaps more favorable crop of cotton came in. But there is another advantage in a diversified agricultural industry. It is not simply that when one crop fails another may succeed; but the effect is felt on the price of cotton itself. Everybody knows how the price of cotton has fluctuated during the past year, and the heavy losses sustained by those who did not sell early. The price at this time in Augusta, Georgia, ranges somewhere about sixteen cents a pound, whilst the cost of production ranges from eleven to fourteen cents a pound. When therefrom commissions and interest on advances, and the ordinary charges of sale are taken off, the margin of profit is small at the best, whilst in some instances there will be no profit at all. Over production, therefore, on a falling market, is ruinous to the best interests of the planter, and the losses to him necessarily implicates others in widely different branches of business. We are perfectly aware that before the war the product of cotton rose as high as five millions of bales, and that for this quantity there was a sufficient market demand to take it all at fair prices. Last year the aggregate product was somewhere about three millions and a half of bales, and it is possible that some planters, remembering that five millions of bales found ready sale before the war, may imagine that the same quantity may still be thrown upon the market without materially affecting the price. This, however, is a mistake. During the past ten years cotton has been extensively cultivated in other countries, and has thus come into competition with the American staple. We do not say that this foreign cotton is as good or as serviceable as the American, for, as a rule, it is not. But it is used abroad to a considerable extent, and thus helps very materially in keeping down the price of our Southern staple. We think, too—although we have not the data before us to speak positively—that by adding the foreign supply to the American supply the aggregate receipts abroad were well up to the five millions of bales which the South produced before the war, and when she had almost absolute control of the markets of the world. As-

suming this to be the case, and that five millions of bales will meet the actual demand from all quarters, it follows that any increase at the South of the quantity of cotton at present produced must lower the price, and thus leave little or no profit to the planter. A wise policy, therefore, would be to keep the annual supply rather below the point of demand than above it, for the price would thus be kept up to the paying standard.

To accomplish this result planters should agree among themselves to cultivate fewer acres in cotton and a larger number in corn, wheat, rye and whatever other crops may be found useful. If the Agricultural Congress which is called to meet at Augusta this month can only succeed in convincing planters of the advantages of a diversified agricultural industry, it will have accomplished a great good; but such a Congress, to carry weight with it, should be composed of the representative men of the Southern States and not of a crowd of men whose one article of faith is, that "Cotton is King."

At a meeting of the Executive Committee of the Maryland State Agricultural and Mechanical Association, held on Tuesday, September 7th, at the office of the Society, the following gentlemen were appointed delegates to represent the said Society in the above Congress: Hon. John Merryman, Hon. Barnes Compton, James Alfred Pearce, Dr. William Henry De Coursey and Col. S. Sands Mills.

The Chairman of the above Delegation has been notified by the Messrs. Mordecai & Co., of the Charleston and New Orleans Steamboat Line, that they have arranged with the South Carolina Railroad for passes on their road, and return, for the Delegation to Augusta, from Charleston, and also tender free passages on their steamer from Baltimore and return. This prompt and generous action of the Messrs. Mordecai & Co. places the State Society, and especially its Delegates, under great obligations, appreciating the tender as a manifestation of the deep interest felt in the success of the contemplated Southern Agricultural Congress.

FALL CARE OF STOCK.—The *Maine Farmer* gives an abstract of Mr. Willard's Lectures at Orono, on dairy farming. In closing his remarks on the care of stock, he says: It requires one-fourth more food to winter a cow if she come to the barn in a poor condition. At no other season of the year is so much care needed as in late autumn, and so little care exercised. Frosts affect the grass to such a degree that it is not a good plan to keep cows in the pasture without additional food after the first hard frosts. Barns should be warm and well ventilated, and by so constructing them as to secure these two conditions, a large amount of food will be economized.

Our Agricultural Calendar.

Farm Work for October.

We are now getting, with the month of October, to the end of the planting season; and after the wheat seeding is finished the principal work will be to gather and store away the corn and such roots or tubers that mature late in the season. Of course, so long as the weather remains open there is a good deal of work which may be done on the farm, both for the purpose of winding up well the work of the year and in the way of preparation for spring crops. In all heavy soils where clay predominates it is undoubtedly a judicious practice to break up the fields which are to be put in crops early next year, and then give them the benefit of the mellowing and disintegrating influence of the winter frosts. There is also ditching to be done and fences to repair, wood to be cut for fall and future use on the farm, and a general clearing up to be instituted before the hard weather sets in. Independently of these suggestions we give the work for the month as follows:

Seeding Wheat.

If it were not for the danger of the fly, it is in many cases decidedly of advantage that the wheat ground should be seeded certainly as early as the middle of September. The general practice, however, is seed about the first week of October, and if the fall season proves an open one the time is well selected. We have already, in the previous number of the *Farmer*, entered so largely into the subject of the preparation and cultivation of this important crop that it is only necessary here to recapitulate the principal points.

Soil Best Adapted for Wheat.—A clay loam.

Best Preparation for Wheat.—A clover ley.

Best Kind of Seed.—That which is clean and plump and heavy, and which has been grown on a poorer soil, or in a northern latitude.

Depth of Seeding.—From one to two inches.

Method of Seeding.—The drill is to be preferred, wherever it is available, to the old practice of broadcasting.

Time of Seeding.—From the 15th of September to the 7th of October.

Quantity of Seed to the Acre.—Drilled, five pecks. Broadcasted not less than two bushels.

Spring Management.—When the frost is out of the ground and the soil has become dry and friable, run a light harrow over the field, sow separately over the surface a peck of clover seed and one bushel of orchard grass, and follow immediately with roller; or, another practice may be adopted. The seed may either be sown on the snow as spring advances or as soon as the open weather breaks the

soil into a network of cracks. But seeding after a light harrow is decidedly to be preferred, as it improves the wheat plant whilst the grass seed is better covered by the subsequent passing over it of the roller.

Rye.

Rye should have been seeded six weeks ago. Late seeding rarely prospers so well. But if the seeding has been delayed the ground should be made correspondingly rich and the seed put in at once. A sandy loam or a dry alluvial bottom is the best for rye.

Threshing Out Grain.

See that the grain is threshed out as early as it can conveniently be done, and send at once to a market, or else store carefully away in the granary.

Orchards.

Treat these as previously advised. Cut off all dead limbs and water shoots smooth and close to the bark. Cover the wounds thus made with a mixture composed of equal parts of tar, rosin and beeswax. Scrape the mossy and scaly bark and wash with soft soap, sulphur and salt. A gallon of the first to a pound of the second and a quart of the third well mixed together.

Planting New Orchards.

Now is the time to plant new orchards. Many persons wait until the spring, but the pressure at that season is very apt to cause the work of planting to be done carelessly; moreover trees planted in the fall start better in the spring if they have been well protected through the winter. Make the holes for the trees large and deep, trim off all bruised roots, fill in with rich soil, giving water occasionally, and finish by staking and mulching.

Cattle Yards.

Collect throughout the fall all sorts of litter for compost and for bedding cattle through the winter where the supply of straw is deficient.

Pumpkins and Roots.

These should now be harvested and carefully stowed away where they can be kept dry and secure from frost.

Milch Cows and Young Stock.

Take particular care of these. See that they are well and regularly fed with good provender, and give them occasional messes of slops and roots.—Comfortable shedding should of course be provided.

Buckwheat.

See that the buckwheat is harvested before the frost injures the grain. Commence cutting as soon as one-half the heads have turned black, and be careful in gathering, as the grain is very apt to shatter.

Fall Ploughing.

Stiff, hard clays intended for tillage in the spring ought by all means to be broken up in the fall. A light, sandy loam should, on the contrary, be suffered to remain unbroken.

Garden Work for October.

The following is the work remaining to be done in the garden during this month.

Winter Spinach.—This of course has been, or ought to have been, already seeded, and is presumed to be in good growing condition. It should now be carefully weeded and the plants thinned out to stand four inches apart. If the soil is not very rich, a top-dressing of well-rotted barn-yard manure will be found serviceable to the growing plants and will also serve as a partial protection to them throughout the winter.

Lettuce.—Set these out in a warm border as soon as they are large enough to transplant. Dig the ground well and well manure it. In setting out the plants let them stand six inches apart, and when cold weather sets in protect them with a light covering of brushwood and straw.

Setting Out Cabbage Plants.—Taking for granted that cabbage seed of the fall varieties were seeded last month, as advised, and that the plants are now in a state to remove to their permanent bed, we now proceed to state what should be done. Early in the month manure the required bed heavily, and spade it well in, giving the preference to a southern or southeastern exposure. Throw the soil into parallel ridges three feet apart and four inches high. Press the slopes of the ridges compactly down with the back of the spade and then set the plants about midway of the hedge and on the north side of it. The plants should stand about six inches apart. Towards the close of November strew stable manure or loose straw along the valleys between the ridges and to about the height at which the plants stand in the row. Leave all thus through the winter. Early in the spring, as soon as the frost is out of the ground, draw the earth from the crests of the ridges into the valleys with a hoe so as to level the entire surface. Thin out the plants for use as soon they are sufficiently advanced in growth. Keep the soil loose and the bed free from weeds as the season advances, and as the remaining plants begin to expand draw earth about their roots, and at the third and last working give them a final hoeing and dressing up.

Cauliflower and Broccoli.—Work these carefully during the month and keep the soil loose and clear. Towards the end of the month commence to hill them.

Asparagus Beds.—Mow all off and clean thoroughly the asparagus beds as soon as the stems begin to turn yellow. Fork the soil over lightly and finish by top-dressing the beds liberally, first with well-rotted stable manure, and over this a mixture of salt and ashes, the proportion being three parts of salt to one of ashes.

Celery.—Earth up celery from time to time and water freely in dry weather.

Small Salading.—The final seedings for the season may be made during the first half of this month.

Rhubarb, or Pie Plant.—Rhubarb seed sown during this month will advance the plants a year over those seeded next spring.

Chalots, Garlics and Chives.—All these roots should be planted out during this month.

Horse Radish.—Plant out a bed of this wholesome condiment early in the month. The crowns of old roots will speedily strike, and when once they obtain root-hold there will be no difficulty in perpetuating them.

Raspberries, Gooseberries, Currants.—New plantations of these excellent small fruits may now be set out. Plant the raspberries four feet apart in the row, and the gooseberries and currants at a distance of six feet apart. Of these last cuttings may now be taken and planted in a warm border, ready to set out the following autumn or the succeeding spring.

Strawberries.—Clean off the beds and top-dress liberally with well-rotted manure and wood ashes.

Lime on Green Sward.

An English writer in the *Journal of the Royal Agricultural Society* assumes to have made a discovery in top-dressing green sward with lime and its restorative effect, and describes the process somewhat in detail. Now, if the writer had visited this country, where English farmers imagine horticultural science to be in its infancy, he would have found out, without going beyond the limits of the city of Philadelphia, that the application of lime to sward or sod is a common practice here, especially upon pasture-lands. We have known sward to afford the very best pasture for fifty years, without breaking-up, and so maintained by the top-dressing of lime once in from six to ten years, say of from thirty to fifty bushels per acre. These pastures, which mostly abound in clay moulds, after being grazed down are restored knee deep with the richest and most nourishing herbage in from four to five weeks. The truth is, nowhere has lime a more marked effect and can be used with more profit than in the renovation of pastures.—*Ed. Ger. Tel.*

ENGLISH MUTTON.—A prominent sheep-breeder of New York, who has traveled extensively in Europe, recently gave his opinion of the superiority of English continental mutton over that in America, in the simple sentence, "They feed turnips." The Practical Farmer endorses his opinion, and insists that our sheep-breeders, to raise the best mutton, must raise rutabagas and turnips.

Phosphate Beds in South Carolina.

Much interest has been excited within a few years past by the discovery of extensive beds of phosphate of lime at the mouth of the Ashley and Cooper rivers, near Charleston, these covering from three to four hundred square miles to a depth of from six inches to three feet, and resting immediately above a deposit of eocene marl. The phosphate consists mainly of nodules formed around eocene shells as a nucleus, and furnishing about sixty per cent. of phosphate of lime. Among the nodules in question are found sharks' teeth and eocene shells like those of the marl beneath, and, according to Professor Shaler, resembling the species found at Gay Head, on Martha's Vineyard. In the upper layer of this bed occur bones of the mastodon, of extinct horses and sheep, and bits of pottery. Although some geologists consider these as belonging to the same period as that of the phosphate beds themselves, in Professor Shaler's opinion they were introduced at a later period by the agency of water. Professor Shaler thinks that these beds were formed, after their upheaval, from the marls beneath them; that the drainage of surface-water charged with carbonic acid acted upon the upper layer of the marl and removed the carbonate of lime, leaving the phosphate to accumulate in the nodules around the shells. He does not pretend to account for the original appearance of the phosphoric acid, which he thinks too great in quantity to have been derived from the bones of vertebrate animals. He suggests, however, that it might have been derived from seaweeds, some kinds of which are known to contain it in appreciable quantity, and possibly from some pteropod mollusks. Professor Shaler looks upon the phosphate beds in question as in the main much like that of the sea bottom off the southern coast, the recent dredgings and soundings from which have been found to contain an appreciable percentage of phosphoric acid.—*Harper's Magazine.*

HOW TO MARKET HONEY.—D. W. Quinby, New York City, writes the *Bee Keepers' Journal*:—I have handled for years as great an amount of honey, and to as good an advantage, perhaps, as any one man, and my observation and experience have taught me this: to realize the greatest profit from honey, let it come to the market in glass boxes of about four pounds each; these packed securely in cases of fifty pounds, with glass and honey in plain sight, can be shipped any reasonable distance without any material damage, and when offered for sale will bring from fifty to sixty per cent. more than strained honey. That the mel-extracted honey may be a success, is the question of time; it will certainly take a few years to introduce it, and its introduction may be made to the loss of parties concerned."

AGRICULTURAL CHEMISTRY.—II.

THE FERTILITY OF THE SOIL DIMINISHED BY THE LOSS OF ITS INORGANIC MATTERS.

The object of agriculture, wherever practiced, is to obtain from the soil those crops which it does not naturally produce; and all systems of improved cultivation are undertaken with a view to increase those desirable productions to the greatest possible extent.

This however, can only be effected under ordinary circumstances, at the expense of the exhaustion of those ingredients which served as the elements of fertility, and, in consequence, diminished productiveness, and, in time, total barrenness will ensue as a natural result of the continued abstraction of those important materials. To show how to obviate such a state of things, have men of science written and lectured for years past, and with what effect is evinced by the increased desire on the part of those who cultivate the soil, to read and learn everything that can be acquired in any way tending to enhance the success of their calling.

This is openly shown in the continually increasing subscription lists of the agricultural papers and periodicals; and the name of "Book-Farmer," formerly one of reproach, has now become obsolete, if not entirely forgotten.

It would appear from the writings of some of the ancients, that there existed among the Romans, even two thousand years ago, a tolerable system of husbandry; but as science had not yet dawned on the art of agriculture, and chemistry was yet unknown, their progress could not be otherwise than limited to the field of observation. Agriculture therefore became stagnated for want of an explanation of the facts which had been observed; and its practice seems not to have been much superior in Europe, as late as seventy or eighty years ago. Since then, its march has been steadily progressive, notwithstanding the different theories and views of different *savans*. A new light was shed upon the subject when the chemical analysis of plants, and the soils on which they grew, was undertaken. From the results thus obtained, it was satisfactorily proved that all crops in a greater or less degree abstracted the mineral matters from the soil, which matters were found in the ash of those crops; and it was evident, unless such mineral or inorganic materials were restored, a state of barrenness would ensue.

It is quite clear that this is a question of the utmost consideration to the country at large, and particularly to the older States, the diminished production of which is yearly apparent. Those who have been engaged in the practice of agriculture themselves, and have observed its practice by

others, must feel satisfied from their own observation that only in exceptional cases is a sufficiency of all the ingredients carried off by crops from the soil returned to it.

We know, therefore, that the equilibrium between supply and demand is by this means disturbed, and that only by the restoration of this equality can continued productiveness be expected. The elements required for the growth of plants are a sufficient supply of carbonic acid, ammonia, nitric acid, water, sulphuric acid, chlorine, potash, soda, lime, magnesia, phosphoric acid, and silica, some plants requiring more, and some less of these, according to their variety.

These elements can be divided into two classes: the first, embracing the first four, which being volatile or gaseous, are afforded by the atmosphere; the second class are required to be found in the soil. The constant movement to which the atmosphere is subjected by the winds causes the gaseous food to be equally distributed, so that in all countries this supply may be considered equable, and is the source of the organic or combustible part of plants, while the supply of the second class, or inorganic food, can only be kept up by returning to the soil whatever of those materials have been abstracted from it, in the removal of crops.

A fertile soil must therefore contain in a form adapted for assimilation, all the inorganic matters indispensable to the growth of plants. By varying the kinds of crops on a field in good condition, a fair return can be expected of each; but all the inorganic matters taken up by them must be returned in some shape to the soil, before the same rotation can be repeated with success.

Now, how can the farmer return those materials unless he knows what has been carried off? and how can he know what has been carried off, unless he is acquainted with the chemical constituents of plants? This knowledge can be imparted to him by those who have made the subject their study, and write for his instruction; but it is requisite that he should read, if he would acquire the benefit of such knowledge.

It has been found that a crop of potatoes (about 200 bushels) per acre contain mineral matters or ash to the amount of 103 lbs.; of these, 13 lbs. are phosphoric acid, 8 lbs. sulphuric acid, 8 chlorine, 2 lime, 58 potash and soda, 6 silica, 17 oxide of iron, alumina, &c. The potato tops on the same extent of ground afforded ashes to the amount of 303 lbs. Of these, 33 lbs. were phosphoric acid, 7 sulphuric acid, 4 chlorine, 7 lime, 5 magnesia, 135 potash and soda, 39 silica, 16 oxide of iron, alumina, &c. Taking the ash of the tops and tubers together, affords a revelation with regard to one of our ordinary crops absolutely surprising. Do we want

anything further to convince us of the necessity of a liberal supply of the carbonates of soda and potash for the production of this crop? or need we be astonished at the record of its continually diminishing yield, as ordinarily grown without consideration of the amount of its mineral constituents?

Let us now consider the wheat crop, one which is raised by almost every farmer. Twenty bushels on an average will afford 20 pounds of ash; of this, 12 lbs. are phosphoric acid, 0.3 sulphuric acid, 0.8 lime, 4 magnesia, 7 potash and soda, 0.4 silica. The straw of the same affords 170 lbs. of ash; of this, 5 pounds are phosphoric acid, 1.5 sulphuric acid, 15 lime, 9 magnesia, 17 potash and soda, 121 silica, 1 oxide of iron, &c., 1 chlorine.

In addition, this plant to be raised to advantage must be supplied with a portion of nitrogenous matter out of which its gluten is to be formed. Now here are two important articles of daily food which are raised, in the majority of instances, without due regard to an adequate supply of the inorganic matters which their requirements demand. Can we wonder at the gradual, but steady diminution of their yield? or can we be at any loss to account for its cause? What applies to these crops, applies in different degrees to all. We should bear in mind at the same time that, although a crop may be supplied with all the elements it may require save one, yet, in consequence of that deficiency will its growth be retarded, and its product unsatisfactory, if not abortive.

In conclusion, it cannot too strongly be urged upon every agriculturist, that if he wishes to maintain the fertility of his soil, he can only do so by restoring to the full extent those inorganic materials of which it has become exhausted by cultivation.

[To be continued in our next.]

From Journal of Applied Chemistry.

AGRICULTURE AND AGRICULTURAL JOURNALS.—The following sensible remarks we clip from the *Richmond Whig*:

In view of the progress and developments in agriculture, it has now become absolutely necessary for the intelligent farmer to keep himself thoroughly posted therein. We know that the cost of a well-supplied agricultural library, or even of the larger publications separately, is an impediment, if not a barrier, in the way of a great many, but happily for all such valuable periodicals are published monthly in all sections of the country especially devoted to the interest of the farmer, and at such moderate rates that few, if any engaged in the cultivation of the soil, can honestly declare their inability to meet the required outlay in view of the great benefits they will and must necessarily reap from their personal.

Preparing Wool for Market.

The best mode of preparing wool for market is as follows: First, before washing, remove carefully with the shears all locks containing dirt in a hardened state. Then wet the sheep in every part, and let them stand crowded together for an hour or two. They should be taken out of the water (when first put in for wetting) as quickly as may be after the wool is fairly wet, in order to retain a soapy substance the fleece contains, which acts upon the dirt and gum in the wool while the sheep stand before washing. This soapy substance is the first thing to escape as washing is commonly done. The best mode of washing is to use a fall of three feet or over, turning the sheep in different ways under the fall, till the action of the water brings every part of the fleece to an almost snowy whiteness. A much less fall will answer as well if the sheet of water is eight or ten inches deep. If the water under the fall is not deep enough to remain clear while the sheep are in, a plank bottom should be provided to prevent any sand or earthy substance from getting into the wool by stirring up the water. A clear rock bottom is just as good. When a fall cannot be had, a clear running stream should be found, and the dirt worked out perfectly from all parts of the fleece, with the hands, after first soaking the sheep as before.

To wash sheep immediately after a soaking rain, will answer very well instead of wetting as above.

After the fleeces are taken off, they should be placed on a smooth, clean floor or table, with the outer ends upward, and be carefully examined all over, by patting with the hands, to find every *burr*, which should be taken out without fail. The fleece should then be rolled up and snugly tied with a small twine.

Our farmers have generally no idea of the injury they suffer by the neglect of these matters, together with the shameful, dishonest practice of tying up their fleeces with ten and even twenty feet of small rope, or with strips of bark two or three inches wide, instead of two or three feet of small twine; wrapping up coarse and unwashed wool inside of the finest fleeces; putting in dirt-balls, dirty sweepings of barn floors; doing up their fleeces wet so that they often mold.—*Bulletin of Nat. Wool Growers' Association.*

WHITEWASH.—An old painter says that the best whitewash a farmer can use is made from sour butter milk and lime. Oil in whitewash and a little glue adds to its durability, but we are told that the buttermilk whitewash will last almost as well as paint. Whitewash may be tinted with ochre for buff or yellow, or lakes for pink.

IMPROVEMENT OF OUR WORN-OUT LANDS.

A short time since we read a statement said to have been made by a soldier of Washington's army, that during the winter which the American forces spent at Valley Forge, he found that the whole neighboring country had been abandoned by its former owners because it had become unproductive, and that thousands upon thousands of acres situated between the Hudson and Delaware rivers could then have been bought for less than a dollar an acre. These lands had been worn out by constant cropping, without any return in the shape of manure, until they were reduced to the same condition as that of thousands of acres of once fertile land in Georgia, which are now "too poor to sprout peas."

By systematic improvement, those same lands have been brought to a higher degree of fertility than that of any time since their first occupation, support their population of thrifty and prosperous thousands, and sell for more than a hundred dollars an acre.

How has this change from absolute barrenness to extreme fertility been wrought? By scientific husbandry, by the careful collection and application of every species of manure, by deep and close plowing, and above all, by the use of clover and plowing under green crops, creating vegetable matter and forming new mould. Throughout all these lands a well adapted rotation of crops and the clover plant have been the means employed to restore the worn out lands and make them support their teeming population, and furnish besides immense surplus crops of grain, grass, and meat; so that their owners are to-day the most thriving and prosperous farmers in the world.

We contend that if we in Georgia will only adopt the same intelligent system, we can attain the same results, and that collect our farm-yard manure as carefully, use lime, gypsum, and other mineral manures, grow clover, and plow in peas and other green crops to add to the vegetable matter in the soil, the worn out lands of Georgia, whose red and seamed surface now tells of the murder which has been committed, may be made quite as productive and valuable as the old fields near Valley Forge. It is no longer possible to say that clover cannot be grown in Georgia. The contrary has been too abundantly demonstrated by the successful experiments of several planters. With the same careful preparation as is made by the New Jersey and Pennsylvania farmers, with the same deep plowing and liberal use of manure, clover can be as successfully raised in Georgia, and we need no other specific to redeem our "worn out lands."

But even those who may be still disposed to deny the profitable production of clover will admit that

we can raise oats, peas, or barley, and any one of these crops plowed under while in a green state, or even allowed to mature, then eaten down, trampled by hogs, and then turned under with a good two-horse plow, will supply a rich treasury of vegetable matter to the soil, and in course of time restore its pristine fertility, while it will also materially increase the productions of the smoke house. Clover, lime and plaster, and a judicious rotation of crops, are certainly the best restoratives for our wasted lands, but peas, oats, or other small grain which will shade the land, and in the shape of putrescent vegetable matter increase the mould, will prove a very efficient substitute, uniting pasturage with tillage, securing us an adequate supply of meat and good stock, arresting the deteriorating process of former days, repairing the waste of generations, and establishing a new and more prosperous order of things.

Unless we give back to the generous earth the elements of productiveness of which for years upon years we have been depriving her, she cannot respond to our demands. The system of husbandry which we have pursued for generations has been the worst with which any country has been cursed. One of the richest and most productive regions in the world, as our ancestors found it, has within a century been reduced to barrenness. Ours the task to renew the exhausted soil, break down the sway of bad habits, abandon the errors of old usage, and intrude a better order of things. Science and skill have demonstrated the folly of the past and the wisdom of the improved system of husbandry by arguments more cogent than any which the most gifted orator or essayist could employ. If we will only persevere, the red hills will soon change their color and renew their youth, the hideous gullies which now disfigure the fair face of our country will be filled up and made smooth, and the "old fields" now tenanted by stunted pines and sedge grass will be glad again with the stately corn and waving wheat.—*Cor. Southern Farm and Home.*

DITCHING.—Rarely has there ever been a year so favorable for ditching as the present. Swamps and meadows which were never known to be dry before are now without water; and if the drought continues through the Fall, we hope that much more work in this line will be accomplished.

Millions of acres of land now waste could be transformed to gardens by simply ditching and draining. The accumulations of ages in the way of fertilizing material are in these low lands. Why should not science and labor utilize what is of so much value?—*Hearth and Home.*

Quiet conscience gives sweet sleep.

POTASH AS AN INGREDIENT OF MANURE.

Prof. Mallett, of the University of Virginia, has written an article on the subject of potash, which we copy from the *Planter and Farmer*, as follows:

Interest is being rapidly excited on this side of the Atlantic with regard to the action of potash to mixed manures, as is already practiced in Europe on a great scale and with excellent results, advantage be taken of the vast deposits of mineral potash discovered a few years ago to the south of Magdeburg, in Prussia Saxony.

That benefit is to be expected from the application of potash as a fertilizer is fully shown by a glance at any good list of analyses of the mineral matter removed from the soil by our commonly cultivated plants—

Thus we find, in round numbers, in the ash of—

Wheat.....(grain).....	31	per cent. of potash
Barley.....“.....	22	“ “
Oats.....“.....	16	“ “
Buckwheat.....“.....	23	“ “
Indian corn.....“.....	27	“ “
Rice.....“.....	18	“ “
Peas.....(seed).....	40	“ “
Beans.....“.....	40	“ “
Garden turnips.....(roots).....	39	“ “
Swedish “.....“.....	51	“ “
Beets.....“.....	53	“ “
Potatoes.....(tubers).....	60	“ “
Cabbage.....(leaves).....	49	“ “
Apple.....(fruit).....	36	“ “
Cherry.....“.....	52	“ “
Sugar-cane.....(stems).....	13	“ “
Red clover.....“.....	35	“ “
Timothy.....“.....	29	“ “
Meadow hay.....“.....	26	“ “
Grass in early stage.....“.....	59	“ “
Cotton.....(fibre).....	42	“ “
Tobacco.....“.....	27	“ “

The well-known great fertility of the soil on the slopes of many volcanoes, as Etna, Vesuvius, etc., when resting upon and derived from volcanic rocks easily decomposed and rich in potash, also affords illustration of the value of this material to plants, and yet further evidence of the same kind has fallen under the notice of every one who has watched the effect of wood ashes strewn over land, or has marked the difference in the yield of a freshly cleared or burnt over piece of ground, and of one long in cultivation.

Indeed, there has been a pretty general admission on all hands of the importance of this alkali in its relations to plant life.

Yet scarcely any substance known to possess fertilizing power has, until lately, been used so sparingly or so rarely.

Lime, sulphuric acid, phosphoric acid, and ammonia have been and are still used in immense amount, and in forms derived from a very large number of sources. Peruvian guano gives us ammonia, phosphoric acid and lime; raw bone and fish guano afford the same substances in other proportions; the host of “phosphatic guanos” (Nevass, Redonda, Sombrero, and the like,) give us phosphoric acid and lime; land plaster consists of sulphuric acid and lime; the manufactured “superphosphates” yield phosphoric acid, lime, and sulphuric acid; and lime is abundantly presented to us as burnt lime, marine shell, calcareous marl, tufa, etc. Magnesia, also a constant constituent of plants, has been, like potash, a good deal neglected, though coming in incidentally with lime in several of its forms.

Except as wood ashes, and in this condition but sparingly, potash can hardly be said, until lately, to have been included in the list of fertilizing materials, though it occurs, and in relatively good proportion, in the article of that most valuable of all fertilizers, properly-saved stable manure.

The obvious reason has been that the commercial price of potash was too high—it was practically unattainable upon a scale commensurate with the demands of the world.

The discovery of very large beds of mineral salts of potash over-lying rock-salt, at Stassfurt, in Prussia, has greatly changed this state of affairs, and now, after but a few years of working these deposits, potash, though still a valuable substance, has become accessible to the farmer as well as the manufacturer on a much larger scale, and at much reduced prices.

The leading idea to be borne in mind is that these potash salts are not of themselves all-sufficient and independent manures—are not rivals of bone dust, plaster, lime, or fertilizers yielding ammonia—but are simply most valuable additions to these, supplying that which they do not contain and cannot be made to yield.

HUNGARIAN GRASS.—Edwin Johnson, a farmer in Delaware county, a few miles from Philadelphia, says the *Practical Farmer*, regularly sows a few acres of Hungarian grass, and considers it a very valuable addition to his winter supplies. His cows and horses eat it readily, and thrive on it—and its rapid growth, in the event of indications of a short crop of grass, makes it an important and profitable substitute. He informs us, his crop varies from 2 to 2½ tons per acre, ready in two months from the time of sowing, which is usually the first week in June.

Whenever the seed shows signs of ripening, by turning yellow, he has found to be the proper time to cut. It grows three feet high, and the quantity of seed sown is 20 quarts to the acre, well drilled in with an ordinary wheat drill. The sowing of a patch of Hungarian grass may prove to be one of the elements of high farming, and enter into a soiling system, as it can be made to follow sown rye, and will make an agreeable change for the cows.

Richest is he that wants least.

FARM IMPLEMENTS--THEIR CARE, &c.

It is estimated that, within the bounds of reason, there is no less than *five hundred millions of dollars* invested in farm implements in the United States. What proportion of this vast sum is allowed to go to waste annually? That a very considerable proportion is annually destroyed for the want of proper care is too patent to need argument; were this not the case, why the need of so oft renewing the various implements of the farm, as evidenced in every neighborhood; and also the immense amount annually turned out new from the manufacturers and sold.

Supposing that, with present usage, care, etc., the average of \$500,000,000, the estimated amount invested in farm machinery, has to be renewed once in ten years, or that on an average this machinery lasts ten years, which it does not in accordance with our best sources of information, then the annual outlay to replace wear, tear, etc., would be \$50,000,000. Now can we allow less than one-tenth of this amount for actual waste for want of proper usage and suitable care? I think not, and that a much larger proportion may be charged to this source; we have then an actual loss to the farmers and the country of not less than \$5,000,000, which instead ought to be added to the wealth of the nation. What an amount of comfort this would purchase to overworked farmer's wives, supplying them with many needed aids of which they at present are deprived; and yet this might be done through a little forethought and care on the part of the farmer.

This train of thought has been led to from observations about the Squire's premises since haying. The Squire had a good farm, grows and harvests a goodly amount of hay, grain and other crops; and in somethings is a representative man; especially is he looked up to by many of his neighbors in administering justice, but it is not of this we wish to speak here. He had finished haying and harvesting grain some days since, yet his mower and reaper, horse-rake, hay-cart and wagon, tedder, etc., stood just where the team was unhitched from them, sheltered under the commodious canopy of heaven. In glancing at them hastily we concluded that the effects of the weather, on the wood-work especially, was worse than the season's use otherwise, and the metal parts had commenced an oxidation, which would take some hours of time to free them of, or considerable use to get in using order.

Now, supposing, that instead, the Squire had taken fifteen minutes or half an hour, wiped up these implements and run them under his sheds—of which he has sufficient to house his implements, etc.—and left them there to a leisure day, instead of in

the open air, exposed to the sun, etc., and at the first leisure given the wood-work, as well as the gearing and metal parts, a coat of oil, and then carefully stored them in his dry tool-house, suppose you that they would have had that weather-beaten appearance they now have, and how much would have been the expense compared with the saving, think you? I think at the end of three years, instead of being obliged to renew these same implements, he would have had implements that would have been good, with the same good care, for, at least, as much longer; and he could have been in funds to procure those very desirable and much-needed improvements which his good and overworked companion of the house so much needs, and has tried to induce him to obtain so many times in years that are gone, and he has excused himself from; for "I have got to buy me a new mower and reaper," or some other needed machinery of the farm.—*Cor. Germantown Telegraph.*

LAWN-SOWING.

In reply to an inquiry as to when lawns ought to be made and the seed sown, we can say that, in a general sense, perhaps spring, or rather April or May, is the best time; but they can be sown at almost any time, even up to the last of wheat-sowing. We made a first-class lawn by sowing in August, probably the most trying month of the season. A great deal depends upon the preparation of the ground, which should be as thoroughly done as possible. It cannot be made too rich with compost or well-rotted barn-yard manure, which should be harrowed-in deeply. Sow plenty of seed—we should say the following quantity and varieties per acre, as recommended by William Saunders, Esq., of the Government Gardens at Washington, though the mixture differs but little from what we have used ourselves and offered to others in our columns: One bushel of Red Top; two bushels June Grass; one quart Timothy; and two pounds White Clover. This will not fail in affording a beautiful and permanent lawn, if top-dressed with good barn-yard manure every other year. If sown in June, July or August, a *small sprinkling* of oats may be added to protect the young shoots from the severe suns.

We would not advise the harrowing-in of the seed, unless the implement be very light. Drawing over it a many-branched *bush* without leaves and not too heavy, will answer very well, though we prefer to sow just before a rain, letting *that* do the covering or setting of the seed.

Frequent cutting or rather clipping of the grass with a mower adapted especially to lawns—about every ten days—will perfect their beauty and make them a sight fit for angels to look upon.—*Ger. Tel.*

THE VALUE OF CLOVER.

There is probably no other plant known to us of such value to the farmer as clover. It is not only remunerative as a money crop, but it permanently improves the soil; first, by extending its roots into the subsoil three feet, and in many instances four or five feet, according to the nature of the subsoil, thereby bringing to the surface the elements of plant food, which lie below in a dormant state; secondly, by attracting from the atmosphere a large amount of carbon, which is thereby transferred to the soil; and thirdly, by shading the land, by the constant falling of the leaves (it being a deciduous plant) covering the soil with a sufficient coating to completely shade it, without excluding the air, consequently protecting the soil during summer from the burning rays of the sun.

By the foregoing will be seen the great value that the general cultivation of clover would be to the Southern farmer, by the great improvement to the worn out lands, making those portions which are now thrown out and worthless, as productive as the best, in the increased amount of forage and all kinds of produce, thereby increasing the wealth and general prosperity of the South—for it is an established fact that all countries that cultivate grasses extensively are prosperous and lands command high prices.

To enumerate all the advantages and benefits to be derived from the extensive cultivation of grasses, would occupy more space than an ordinary newspaper communication will permit; but the following, will be sufficient, I hope, to induce some of our most enterprising farmers to make the experiment:

First in the list is good pastures, with its natural consequences, of fat cattle, good milch cows, plenty of rich milk and butter, fat hogs, etc., without the trouble and expense of feeding corn; secondly, plenty of rich hay, worth, in this section, thirty dollars a ton. Timothy and clover will average three tons per acre, each year, making an income of ninety dollars an acre—being far more profitable than cotton, and requiring not more than one-fourth the labor—thereby requiring less corn, keeping stock in better condition, and enabling farmers to raise their own mules and horses, thus saving a large sum annually.

As many persons are entirely unacquainted with the mode of preparing and sowing grass-seed, I will give the plan adopted by me, which has been uniformly successful. Break up your land with a two-horse plow to the depth of nine inches, follow with a sub-soil plow, (Murfrees' sub-soiler is the best,) with one horse, so as to break through the hard pan formed by constant tramping and shallow ploughing; harrow the land perfectly smooth, until all

the clods are pulverized; sow the seed broadcast, using a seed-sower for that purpose; Cahoon's patent seed-sower;) cover by passing a roller over the ground, or if there is a prospect of rain, it will not require any covering, the rain being sufficient for that purpose.

Now for proofs and actual results. In October, 1868, I sowed down six acres of the poorest land in Attala county. In June, 1869, I took off a crop of two tons to the acre, and in October, of the same year, one ton, making three tons the first year. In the first week of June, 1870, I took off two tons of hay to the acre, the second week in July, one ton, and will, no doubt, get one more ton to the acre in October, making four tons for the second year.

If with the above showing our farmers still persist in raising cotton to the exclusion of all other crops, I fear nothing but the inevitable ruin which will follow such a course will cause them to change their mode of farming.

S. PHILLIPS

From the Kosciusko Chronicle.

Manure in Pastures.

As a rule, droppings of cattle in pastures are not spread. They fertilize a very small space, and the grass grows so rankly, that the cattle will not touch it, until they are forced by hunger. These little green blotches are noticed in every cow pasture. There is a loss of food for at least two years by this neglect. If the manure were spread every fall or spring, as it is in meadows, it would cover a very large space and become immediately available. At least ten times as much surface would feel the effects of the manure, and the grass would all be cropped, and returned again to the soil, and made immediately available. We know of an old farmer who preaches and practises the beating of dung in pastures. His neighbors laughed at him for his hobby; but we notice that his pastures laugh with clover blossoms, that his cattle are fat, and that his bank account laughs with greenbacks—so the laughing is not all on one side. We have thought there was some connection, possibly, between the half-dozen dung mauls under his shed, and the roll of greenbacks in his wallet. Until we get ready to adopt the policy of Ogden Farm, and abolish pastures by soiling and steaming, it will be safe to spread the manure in our pastures.—*Amer. Agricul.*

How to Set Fence Gate Posts.—Alonzo Bradt, Skaneateles, N. Y., says:—"In that vicinity, for several years, the manner of setting has been with hydraulic or water lime and coarse clean sand, or fine gravel, the proportion one of former to four or five of the latter. It should be mixed thoroughly, rather thin, and the hole filled to the surface. There may be small stones thrown in as the hole is being filled, which should not be less than three feet deep."

ORNAMENTAL GRASS-PLOTS.

For many years it was customary for Americans who had traveled in Europe to speak in terms of glowing eulogy of the beauty of the grass on the English lawns, so close, compact, and ornate; and it was generally supposed that there was something peculiar to the moist atmosphere of England that gave the English turf so much the advantage of ours. That this ornamental grass well-deserved all this praise is true beyond all denial, but that it is in any manner so peculiar to the climate of England and that it cannot be produced here, is an entire mistake. The professional gardeners in and about Philadelphia have long devoted their attention to the subject, and are now able to produce a turf for ornamental purposes that challenges comparison with the best in England. The gardener sows a piece of ground that has been carefully prepared for the purpose, with selected grass-seeds, and when it comes up it is watched and kept clear of weeds, and frequently and liberally watered. The process is the same here as there. This grass is not allowed to grow long, being kept closely cut by frequent clipping. Many prefer to have clover intermixed, therefore clover-seed is sometimes sown though it would appear soon to "run out."

Those desiring to cultivate grass in this way need not be deterred from doing so on account of the smallness of their gardens or grounds, as we have seen a fine grass-plot raised in this style in a yard with a plot only twelve feet square. It is necessary to keep this grass from being walked over or trodden by dogs, chickens, &c., or used in the common way except occasionally. In fact as it is desired for ornament, it should be guarded as carefully as a flower-bed, since it is well-known that no grass will flourish that is much trodden under foot. Gardens or lawns, where this fine grass is cultivated, should be provided with gravel or paved walks to which promenading should be confined. Coarse running grass cannot be too carefully excluded from these plots, and the common plantain is a noxious weed to be fought with equal vigor. In fact the fine grass must have the plot to itself; it must be attended to with care, kept from drought or harm, and it will reward the cultivator with the most beautiful emerald carpeting that could be desired. Frequent and regular watering and clipping is a necessity. There is no other secret than this on the production of the beautiful turf that has long been the pride of English ornamental places, and it is because Philadelphia has learned the art that so many of our private gardens and lawns now look so beautiful in summer.—*Germantown Telegraph*.

Small faults indulged are little thieves that let in greater.

Feeding Dairy Stock.

In the Seventh Annual Report of the Massachusetts Board of Agriculture is a report by James Thompson, Esq., from which we take the following in reference to feeding dairy stock:

"As the dairy cows on a farm are the machines through which is run much of the produce raised, and from which most of the profit is derived, it behooves us to make much of every sort of fodder that we can grow; and as very many farms have not the desired amount of upland to grow all good English hay, we cannot too strongly urge all farmers to raise roots that keep horses, cows, sheep, and hogs. In fact all farm-stock devour them when properly prepared to suit each. Roots and cabbage are like barn-manure, when compared with concentrated fertilizers by their bulk, as to the nutritive and fertilizing value of each; but when they are used in practice we all know the results are ahead of the estimate. Store hogs can be fed with turnips and mangels from early Winter to late Spring, when other green provender can be grown till time to fat them; and they increase the manure-heap wonderfully. This word manure ought to be the first and the last thing looked after, as it is the source of all good farming.

"There should not be over half a bushel of roots daily to each cow; and if you have no grain to give with them, better sell enough to buy a little, as one pint a day will check any tendency to scours. It should be understood that too much of a good thing is as bad as not enough."

Curing of Corn Fodder.

This is a New England farmer's mode of curing his cornfodder as communicated for the *Boston Cultivator*:

"Before frosts in Autumn, I cut and lay straight in bunches of convenient size. For the purpose of stocking the same, I take a fence rail about ten feet long, raise one end two and three-fourths feet from the ground by means of legs, with feet well-spread, the other end resting on the ground. About three feet from the highest end of the rail, make an inch hole, and pass half-way through this hole a pin four feet long at right angles with the rail. Convenience and economy require three men to do the work. Set the corn in the four corners formed by the pin passing through the rail, the tops inclined toward each other, until as much is set up as a man can easily span with both arms extended. Bind this with strong twine near the top, by passing one end of the twine through a loop in the other end, and firmly tie. Remove the pin, and pass the rail forward to form the next shock. Put up in this manner, it may stand in the field until mid winter, or may be packed in the barn when sufficiently cured. I have taken several tons from the field as late as the 12th of December in excellent condition."

FOR THE MARYLAND FARMER.

VALUE OF SUBSOILING EXEMPLIFIED.

I had occasion during the last winter to remove an old potato house or cellar. It stood upon a hill-side, and the clay removed to form the cellar was placed around the house on the outside. Upon removal of the old house this clay was thrown back into the cellar, making the land level again. I have now corn growing in that field, and the spot where the house stood is *very plainly marked* by corn much larger and greener than that adjoining. No manure of any kind was put there; and the soil, if soil it may be called, is to all appearance nothing but clay from which good brick might be made.

In remodeling my garden the past winter I found it desirable to refill a ditch that ran across a part of it. It was filled with the soil adjoining. The line of the ditch is now distinctly shown by larger and fairer cabbage, tomatoes, beans, &c., than are to be found in any other part of the garden.

In "fixing up generally," around my premises, I found it necessary to fill up an old well in my corn-field, formerly a pasture. A single hill of corn just over the well contains two stalks that are the remark of all passers-by for size, color and thriftiness. It is "big corn."

Now what do these things teach us? Evidently the value of breaking of the soil to a great depth. And if the deep stirring of the soil—on a clay hill as well as a garden—will invariably show these marked results will it not pay to increase the area of land so treated? It certainly would if it could be done at a reasonable cost. Why wear out your bodies, and get poor pay, by skinning over many acres, when by deeply breaking the soil of a few, just as much, or more, could be realized? Farmers, as a class, are slow to learn. They labor hard, and do not expect to make a living unless they do. Well, we are willing that they should; but we want to see them take a little time for recreation and mental improvement. By working more brain and less muscle you may make a better living. Try it.

B. W. JONES.

COTTAGE HOME, SUFFY, Va.

PIE PLANT.—An exchange says: "We have cultivated pie plant extensively for market, and find the best time to transplant is the Fall, after the first frost. If the stools are large and require a division, do not dig them up, but divide them with a spade, by cutting off or dividing through the center of the plant, leaving a part in the ground undisturbed. By this method you will have a good crop the next Spring on those left in the ground. The roots which are divided and reset will bear a good crop the second year."

FOR THE MARYLAND FARMER.

LAUS DEO.

With hope we planted the seed and nursed the tender plant of spring, looking with trusting confidence to the Giver of all good for the sunshine and shower to cause them to grow for food for man and beast. All through the long hot summer time, when the heavens appeared as brass, and no refreshing showers came to revive the drooping corn, we still bowed in silent submission to His will, believing that, though He smite us for a season, yet He doeth all things well. And when, at last, the windows of Heaven were opened, and the parched earth was permitted to drink in the life-giving element, and our crops were saved, thus verifying the promise, "While the earth remaineth seed-time and harvest shall not fail," then it was we looked up with filial gratitude, and the expression of our heart was "*Laus Deo*." And now that, once more, the showers are descending, and we sit in our quiet chamber and recall the blessings of the past and the mercies of the present hour, again we exclaim "*Laus Deo*"—praise be to God. Farmer, reader, can you not, with heart and soul, join with us in singing "Praise be to God; yea, praise him for his goodness to the children of men."

B. W. JONES.

COTTAGE HOME, SUFFY, Va.

The Use of Lime.

From an article on lime and its chemical advantages to agriculture, by a Mr. Cameron, we extract the following, from the Southern Agriculturist:

The action of lime is two-fold; first, physical, and second, chemical. As a mechanical agent it opens stiff clays, rendering them friable, mellow and more easily worked chemically, it acts upon the vegetable matter of the soil, and sets free those stores of valuable substances which, without the action of this agent, must have remained inert and useless. It also enters directly into the composition of plants, and in many varieties form a large proportion of the weight of their inorganic constituents. It neutralizes acids which are often present in soils, rendering them useful to vegetation, instead of being positively injurious, which they are in their original state.

The existence of water in the soil, however, effects action of lime very considerably. If the land is wet and undrained, lime will not exert the same influence which it would do in the case of thoroughly drained land. A greater quantity of lime is necessary to produce a given effect, and thus the neglect of thorough drainage entails a considerably greater expenditure in liming than would have been necessary if the land was either naturally or artificially dry.

Mulching—Stirring the Soil.

A great deal is continually said in certain quarters, of the benefits of mulching in every shape and way, and we are a warm advocate of the practice under some circumstances. To mulch everything at all times will do more injury than good. When egg-plants, tomatoes and strawberries are set out they should be mulched at once, unless the season is wet, but an application should be made as soon as a dry, hot spell sets in. Young fruit-trees should be treated in the same way, and all the mulching should be applied bountifully. In very dry spells it is well to remove the mulching once or twice, and give the soil a good stirring, and then mulch again. Protection against burning, exhausting effects of the sun is of the first importance. If we examine an okra-bed it will be found cool and moist, while all around it is thoroughly baked; and so it is with other shaded crops. We all know, or should know, that raspberries, blackberries, currants and gooseberries require deep mulching, and do best where they have shade from a third to half of the day. The mulching applied to these may be a foot in depth, and they will thrive all the better. They like a cool, moist soil and this is the best way to get it.

Among crops generally, however, stirring the soil frequently is of first importance. This is very essential even in the young growing celery plants. The constant *pouring* of water upon them does them little or no benefit. Loosening the soil frequently and applying the water through the "rose" of the watering-pot will be found to have the best effect. At this writing, [Sep. 14th,] strawberry-beds, both young and old, should be cleansed of all weeds and the soil well loosened. It will strengthen the plants for next year's crop, and prevent the weeds from getting the start of them in the spring.

Mulching, simply, without regard to conditions, may do more mischief than good. It is for this reason that we take occasion to offer some advice. If done judiciously it has a marked effect for the better almost everywhere.—*Ed. Germantown Tel.*

HOW TO SAVE YOUR SHOE SOLES.—It consists merely in melting together tallow and common rosin, in the proportion of two parts of the former to one part of the latter, and applying the preparation (hot) to the soles of the boots or shoes—as much of it as the leather will absorb. One farmer declares that this little recipe alone has been worth more than five years subscription to the newspaper publishing it.

Wise men make more opportunities than they find.

Converting Straw into Manure.

A correspondent of the *Western Rural*, at Hillsdale, Mich., gives the following as his mode of converting straw into a fertilizer:

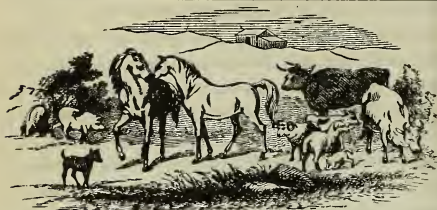
As I have had a great deal of trouble with that matter and have finally succeeded to my entire satisfaction, allow me to give my plan also.

My barn has an underground cellar, the yard side on a level with the cellar bottom and sloping back from the barn. On that side of the barn are sliding doors 14 feet wide. When threshing, a stack is made a little wider than the doors, as high as convenient and running back as far as necessary. Last Fall about three feet of straw was first spread over the cellar bottom for a bedding for the cattle, and also to save the manure and also to be ground fine by the treading of the cattle. Twice during the Winter I had the stack cut down and straw fed abundantly over the cellar and afterward about the yard.

Then the straw stack, which was bright and good, was with the cattle and colts, and work horses when idle, and the weather not too cold (for they delight to run in the yard), and they soon began to eat all around the stack. About once each week a strong brine was made, and with a wisp of straw was throw over the sides of the stack. In this way I believe three-fourths of the straw was eaten. The little that was finally left at the bottom of the stack was thrown into the cellar to be trodden down. I believe not one handful of straw one foot long can be found in the yard. It is all well rotted, and soon to be spread over and plowed into a fallow. By rotting in that way, cattle will pull out and eat most of it if the straw is good. It doubly pays the work for bedding.

CUTTING OFF THE SEEDS.—The *Hearth and Home* says: "The maturing of seeds upon almost all kinds of plants is an exhaustive process. There are many of our annuals and biennials that will become perennials if they are not allowed to produce seeds, and this leads the florist to practice a system of removing all seed-vessels from plants where a strong growth is desired, and the seeds are of no value. Small herbaceous plants and shrubs will usually be greatly benefited by the removal of the flower-stems as soon as they are out of bloom, and the increase in growth will readily be observed. It is not only a waste of vigor in the plant to allow seeds to mature that are not wanted, but it also exhausts the soil to no purpose. In many of the comparatively slow-growing shrubs, like *Rhododendrons* and *Azalias*, this practice of removing the seed-vessels is of more importance than in those of rapid growth, but it is beneficial to all.

Live Stock Register.



RAISING CALVES.

The best calves should be raised and kept on the farm. Thus only can a stock of cattle be improved. Breeding from the best and raising the best is the only sure road to success in keeping a stock of cattle for beef or the dairy.

There is a dead loss in raising and keeping many animals, because they never pay for the food they consume. In order to have a superior animal, one that will pay for its keeping, and a handsome profit above, all parts and functions which go to make up a sound animal must partake of the same uniform, healthful development and activity. The digestive organs, of the cow, for instance, must be capacious, strong and active, capable of seizing the food and transforming it into matter that is suitable for giving nourishment and growth to the tissues of the body. The lungs must be able to oxygenize and vitalize this matter as it reaches them mingled with the current of the blood, and then the secretions must be properly balanced, so that the nutriment will go to promote the growth and development of all parts in their proper harmony. When there is an undue tendency to the formation of muscle and fat, the secretion of milk must consequently be proportionately small in quantity or poor in quality. If, on the other hand, the product of milk is excessive, other parts may suffer, sometimes to such an extent as to cause constitutional, feebleness or disease, which may be imparted to the next generation. The nervous organization must be vigorous and healthy, for the action of all the functions derive their life and motive power from the nerves. And the temperament must be calm and docile, otherwise there will be a waste of the tissues in unnecessary activity and excitement. The character of the mature animal in these very important points, depends in a very high degree on the way and manner in which it is raised. To produce a cow that is perfect in every respect, the calf must be fed, cared for and trained from the day of its birth without intermission until maturity, in such a way as to give a steady, uniform growth and development, neither too fast nor too slow, without forcing and without check.

It is a very easy, pleasant way to raise a calf to let it follow its dam. A very fine calf will be the result. It has this argument in its favor—it is in accordance with the laws of nature. As the lives of our domestic animals are to a great extent artificial, being restrained and controlled in their habits by man, it is desirable that they become reduced to a condition of subjection and docility at that age when it can be accomplished with the least inconvenience and interference with their growth. A calf that has taken its milk in the natural way, especially if it has run in the pasture with the cow, is a wild, headstrong creature. It is often difficult to teach them to eat such food as it may be necessary to give them. After many trials we find the most uniform success in taking the calf away from the cow before it sucks, and teach it to drink at once. Its habits are then easily moulded to the will.

The natural and proper food of the young calf is new, warm milk; and this alone should be given for a couple of weeks at least, better for four. It will do very well at two weeks to use a part sweet skimmed milk or gruel, beginning with a very small quantity and increasing gradually, diminishing the new milk at the same time. We prefer sweet milk for calves rather than sour milk. As the butter is better for skimming before the milk is sour, it is equally convenient.

Our custom for a long time, has been to use a thin gruel of oil meal for calves, say one part of oil meal to 15 parts of water, stirred in while boiling, and boiled half an hour. This is gradually mixed with the new milk after the calf is two weeks old, and soon fed clear, as much of it as one would give of milk. It is a very nutritious, healthful food.

Hay tea is said by those who use it, to be an excellent food for calves.

A thin gruel of corn and oatmeal, equal parts, is good.

Crusts of bread soaked in boiling water until soft, make a nice addition to milk.

The calf should be taught to eat oat meal, oats, wheat bran and roots and hay. It is not good economy to feed a calf so much milk or gruel but that it will eat freely of bright, sweet, fine hay at five or six weeks old. After six or eight weeks the food should be mainly hay though the milk or gruel should be continued in small quantities, and may be given with advantage until the calf is six or eight months old.

Clear corn meal is too heating in its nature, and too hearty to be fed to calves. There is probably no meal better than ground oats. A variety is very desirable, as that gives all the elements needed to make up the many different parts. A mixture of one part each of corn meal, oil meal and

rye meal and three each of wheat bran and oat meal will furnish a wholesome food.

It is the custom of many breeders of thorough bred cattle to stable their calves through the Summer. A finer show calf can be presented in the Fall. Calves raised for the dairy may be sent to pasture at three months old. It is well to bring them up every night and feed them. The habit of coming home at night is worth something in a dairy cow.

Calves should be tied with a halter or rope at a week old. Give them a warm, dry, light place, with abundance of straw.—*Vermont Farmer.*

BREEDS OF CATTLE FOR THE DAIRY.

At a recent meeting of the Ohio Dairymen's Association, Hon. L. D. Griswold, in his address, gave the following opinions as to the merits of some of the breeds of cattle with reference to the dairy:

What is meant by the term *breed*, as applied to cattle? I adopt the definition of Mr. Flint, author of a work on *Milch Cows and Dairy Farming*. "The term breed, properly understood, applies only to animals of the same species, possessing, besides the general characteristics of that species, other characteristics peculiar to themselves, which they owe to the influence of soil, climate, nourishment, and habits of life to which they are subjected, and which they transmit with certainty to their posterity. The characteristics of certain breeds or families are so well marked that if an individual supposed to belong to any one of them were to produce an offspring not possessing them, or possessing them only in part, with others belonging to the breed, it would be just ground for suspecting a want of purity of blood."

Of these different breeds which have been brought to a high degree of perfection in England and in some sections of this country, I shall speak of only two or three as adapted to the subject under consideration.

First the Ayrshire: This breed is justly celebrated throughout Great Britain and in this country, where known, for their excellent dairy qualities. In color, they are generally red and white spotted or mottled, not roan like the Short-Horns. They are of medium size, having a small head tapering toward the muzzle; short, small horns; bright, though mild eyes; slim neck; deep, though narrow chest; broad across the hips, the hind being much heavier than the fore quarters. They are believed to have originated by a cross of the Durham with the native cattle of Ayrshire, and have been bred with great care until they have attained their present prominence.

They excel in the richness of their milk, rather than the quantity. Youatt estimates the quantity of milk at 850 gallons a year as the average yield of an Ayrshire cow. Three gallon and a half of the Ayrshire cow's milk will make one and a half pounds of butter. This would give a yield of 364 pounds of butter in a year, or an average of seven pounds a week, which at 3s., would amount to \$136.50. The first Ayrshire cow imported into Massachusetts "yielded sixteen pounds of butter a week for several weeks in succession, on grass feed only."

Mr. Flint says: "The best milkers I have ever known in the course of my own observation were grade Ayrshires, larger in size than the pure blood, but sufficiently high grades to give certain signs of their origin."

I am not aware that any thoroughbred Ayrshire stock has been brought to Ohio, but the foregoing facts would indicate the propriety of crossing some of our best native cows with a thoroughbred Ayrshire bull, and I hope some of our enterprising dairymen will soon secure the service of one or more such animals.

The Jersey breed of cattle have been imported to some extent to this country. They are distinguished more for the purity and exquisite flavor of their butter, than for the quantity of milk and butter which they yield.

The Short-Horns, Durham breed, have been extensively introduced into this country. This is especially true in Central and Southern Ohio and Kentucky. For beauty of form, for size, rapidity of growth, and the facility with which they lay on fat, they are unequalled by any other breed. Some of the herds have been bred for dairy purposes, and they are first-class milkers.

Our native cattle, if crossed with this latter class of Short-Horns, would leave nothing to be desired. I think grades of this description superior for dairy purposes to Short-Horns of pure blood. I consider this the best method of improving our dairy stock.

Of the Herefords and Devons it is not necessary to speak, as they are not adapted to dairy purposes.

How should one judge of a good dairy cow? Such a cow should have a small, fine head, a mild eye, fine silky hair, soft and loose skin, a deep narrow chest, broad across the hips, and a large though not dependent belly. The udder should be soft and capacious, not fleshy, and not hanging down very low. The teats should be neither too large nor too small, and should be set wide apart. The milk veins, by which I mean the veins extending from the udder forward to the navel, should be large and knotty, as should the veins extending from the upper up the insides of the thighs.

The Dairy.

Slow Churning Preferable.

The Scottish Farmer is unwilling to concede any merit to the newly invented churns that claim to produce butter so quickly, and argues strongly in favor of the patient, careful mode of churning. It says:

And here we would state that we do not believe in quick or rather rapid churning. We have, of late, been accustomed to the advertisements of churns, the great merit of which is stated to be that they produce the butter in a very short time. This quickness is very delusive; it conveys the idea that something is gained; but the point is not, is time gained? but is the butter in the condition in which it should be? To do work quickly is not always to do it well; on the contrary, we are inclined to say that, as a rule, good work almost always includes the outlay of patient labor. But this notion of quick churning as the right thing to aim at proceeds from an ignorance of what the points involved in butter making really are. Quickly made butter may be good enough if it is to be used at once, but it will not keep well. The reason is simply this—that all the buttery particles of the cream or milk are encased with thin pellicles of casein or the cheesy particles of the milk; if these are allowed to be in too great a proportion, the butter has that cheesy flavor we all so much dislike, and this will be the case if the churning is done so quickly as to fail to break up or separate the casein pellicles from the oily or buttery particles; this perfect separation can only be effected by slow churning. Of course, there is a medium; but we should be inclined to place the minimum time in which the churning operation is to be kept up at thirty minutes; between this and forty-five or sixty minutes, if the butter “comes,” then the quality, other things being equal, will be good.

About Milking.

Five per cent., and perhaps ten, can be added to the amount of milk obtained from the cows of this country, if the following rules are inexorably followed:

1st. Never hurry cows, in driving to and from the pasture.

2d. Milk as near at equal intervals as possible. Half-past five in the morning and six at night are good hours.

3d. Be especially tender of the cow at milking-time.

4th. When seated, draw the milk as rapidly as possible, being certain to always get it all.

5th. Never talk or think of anything beside what you are doing while milking.

6th. Offer some caress and always a soothing word, when you approach a cow and when you leave her. The better she loves you, the more free and complete will be her *abandon* as you sit at her side.

We append the not uncommon practice:

1st. Let some boy turn the cows away, and get them, who is fond of throwing stones and switching the hind ones every chance he gets.

2d. Milk early in the morning and late at night, dividing the day into two portions, one of fifteen hours and the other nine.

3d. Whack the cow over the back with the stool, or speak sharply to her if she does not “so” or “hoist.”

4th. Milk slowly and carelessly, and stop at the first slacking of the fluid.

5th. Talk and laugh, and perhaps squirt milk at companion milkers, when seated at the cow.

6th. Keep the animal in a tremble all the time you are milking, and when done give her a vigorous kick.—*Exchange.*

To Cook Vegetables.

It is often observed that a meal from vegetables is not satisfying. I have found it frequently happen that the persons who thus objected, did not know even how to boil a vegetable. The rule is simple, and should never be forgotten. Every kind of vegetable intended to be served whole should, when put to boil, be placed at once in boiling water; and this applies especially to potatoes and vegetables from which the outer cover has been removed. Now it often happens that potatoes, etc., are, to save time, placed in cold water and left to boil gradually. It is just this which allows the nutritious matter to escape and renders the meal unsatisfying. When, on the contrary, the water boils from the moment the vegetable is immersed in it, the albumen is partially coagulated near the surface, and serves to retain the virtue of vegetable. The reverse is, of course, the rule for making soup, or any dish from which the water will not be drained. By placing the vegetables in cold water the albumen is slowly dissolved, and actually mixes with the water—a process most necessary for the production of nutritious soup. It is to be hoped that those who have a special need for the most their money can produce, will learn, in whatever haste they may be, not to boil all the albumen from their potatoes, reserving for their meal only the starchy matter.—*Ex.*

Good farmers do not keep tribes of cats or snarling dogs around their premises, who eat more in a month than they are worth in a whole lifetime.

The Poultry House.

PRACTICAL HINTS.

GAME FOWLS.—The best Game hens are the Dark Grey and Brown Red hens, with dark combs and faces; these are always the gamest and hardiest. Of the Red Blood hens, those of the Cheshire Piles and White legged wheaten are the best. Game hens should be short in body, and rather upright and erect, with sloping backs. Hens carrying their backs level or horizontal are less spirited birds.

LEG WEAKNESS is frequently caused by keeping poultry in houses either paved, bricked or boarded. There is no healthy flooring to a poultry house but earth. Birds afflicted with leg weakness should be treated somewhat in the following way: Put the bird in a small house or pen free from draughts, if in the winter season, in a corner of the kitchen, place under it a bed of straw, feed on oatmeal slaked with strong ale, and give it raw eggs to eat. Break the shell in half and give the yolk only. Give also cooked meat chopped fine. Feed frequently and a little at a time. Citrate of iron is also given to individual fowls afflicted with this disease. Four grains daily is the dose.

CROOKED BREASTS may be hereditary or arise from quick growth and narrow perches. When a fast-grown and consequently weak bird roosts on a narrow perch, it lacks the power to support the body by the clasp of the feet, and from very lassitude the breast rests on the perch, which, at an early age being only gristle, it takes the impress of it. This is peculiarly applicable to large birds such as Brahmas, Cochins, &c., which should never be allowed a roost at all, certainly not until they are over six months old. Crooked breasts are always a bad sign, and fowls with them should never be used as stock birds.

FOWLS KEPT IN CONFINED SPACE should have soft food once a-day, say the first feed in the morning, and plenty of green food; lettuce during the season is excellent, also cabbages; the heads should be thrown whole to the fowls, not chopped, it will afford them employment. Meat should also be supplied, else they may eat each other's feathers. A skewer run through a bullock's liver and then fastened to the ground in the centre of the yard is a capital plan, it enables the birds to pick off the meat in mouthfuls without its being drawn all over their yard. A change of food occasionally is always desirable.

PROPORTION OF DUCKS TO ONE DRAKE.—Four ducks are enough to put with one drake, though some put more.

SPRINKLING WATER ON INCUBATING EGGS.—For ten days before hatching eggs require to be sprinkled with tepid water once a day, (the morning is the best time) If the weather is very frosty and cold it should be done immediately before the hen goes on them after feeding. Half the failures in hatching are to be attributed to the neglect of this precaution.

TO FATTEN TURKEYS.—Shut the birds up in any place where they can perch and roost warmly at night. Let them have a trough of food by them made of oats, barley and a few beans, all ground together and slaked with milk to be nearly liquid. Let them be fed three times per day, a good bellyful each time, but not more than they will eat. They must have gravel and water. If put in good condition, three weeks or a month of this treatment should fatten them.

PROMOTING LAYING.—To promote laying in winter—especially our Canadian winter—stimulating food is necessary, but breeders must bear in mind that birds treated in this way are always more or less injured by the use of such food, and will in a short time be useless for any purpose whatever. The following kinds of food are stimulating. Cooked meat chopped fine, bread soaked in ale, ground oats mixed with milk, tallow chandlers' greaves soaked in boiling water, and hempseed are all stimulating and tend to make fowls lay.

FERTILE EGGS.—There is no means of testing the fertility of eggs till they have been sat upon for a few days, say five or six. On the sixth, if an egg is taken and examined by an egg tester, choosing the strongest light you can, sunlight if possible, and, if it be fertile, you will distinctly see the streak of blood in the yolk. This is the first formation of the chicken. If the yolk is quite clear there is no life in it; at a later period the eggs show by motion when put in warm water.

RICE FOR FOWLS.—Rice is not good food for poultry. It is too poor, and has a tendency to produce vermin. It may be given at times for a change, but only in hot weather, and when there is abundance of natural food to counteract its ill effects. The only way in which it could be dressed to make it good for food would be to boil it with meat or in milk.

TO KEEP BUTTER.—A correspondent says: "Ours is to wrap each churning separately in rag dipped in strong bine, and to pack it in a box or barrel of dry salt, taking care to keep it covered with the salt. It does not become too salt, and is as good in winter as when new."

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Fair of the Maryland State Society.

We shall publish in our next issue a list of the deposits and premiums awarded at the late State Fair. We had hoped to present them in this number, but the delay of the judges in reporting, owing to the weather, prevented us. We shall give a full account of the several departments. The Hon. Wm. Pinkney White, through the sickness of Robt. C. Barry, Esq., had accepted to deliver the annual address, but owing to the rain on Thursday it was not delivered.

SALE OF JERSEY BULLS AND DEVON CATTLE.—We call attention to the sale of J. Howard McHenry, Esq., of his entire herd of Devons and Jersey Bulls. The reputation of Mr. McHenry as a breeder is a guarantee that the stock offered is all as represented. The sale takes place in Baltimore, on October 27th, *without reserve*. Messrs. P. H. Sullivan & Son, Auctioneers, Baltimore. A detailed catalogue will be issued early in this month, for copies of which apply to either of the above.

THANKS.—Our thanks are due to Mrs. J. Philip Roman, of Cumberland, for a box of very choice pears sent us by express. They were fully discussed and pronounced "very good."

FAIR OF THE MARYLAND STATE AGRICULTURAL & MECHANICAL ASSOCIATION.

We should have been glad, if that were possible, to have recorded of the State Agricultural Fair, which has recently been closed, that it was an unusual success. This, however, we regret to say, we cannot do. The preliminary arrangements were well and thoroughly considered, and the prospects of a large and varied exposition of fine cattle, superior labor-saving and other implements, and other things connected with the Farm and the Household were all that could be desired. But somehow or other, the weather, upon which so much always depends in Fairs of this kind, turned out badly. From the opening to the closing day it either rained or there were indications of rain, and, as a consequence, the attendance was small, except on the first, and especially on the second day, when large numbers of persons were present. On Friday, the fourth day, the rain was so incessant and the grounds and race track so saturated with water as to deter all but a few visitors from venturing out from the city. It was at first determined by the officers of the Association to continue the Fair another day, but owing to the fact that some of the stock had already been withdrawn, and that there appeared to be but little hope, even if a change of weather took place, that the grounds would be in good condition, it was finally concluded to bring the Fair to a close at the time originally set. The result has been a sad disappointment to all concerned. It is not, of course, to be expected that the receipts will cover the expenses, and the Association will therefore suffer pecuniarily from a combination of circumstances the most serious of which could not have been foreseen. It must now, however, be admitted that the time set for holding the Fair was unfortunate. It was too near the usual return of the autumnal equinox, and the risk of bad weather was therefore greatly increased. However, it is only through experience that the most cautious of men can be taught wisdom, and we feel sure that the mishaps and misadventures which have attended our State Fair this year will be corrected as far as it is possible to do so at the next Annual Exhibition.

The difficulty of access to the Fair Grounds, with the miserable roads, was another serious drawback, and unless better accommodations are provided in the future, the Association had better sell out and close up the whole business. This condition of things was predicted by many friends when the Society was looking for a site, but to no avail. It would be quite as convenient were it located in the city of Washington as where it is, so far as expense, time and trouble are concerned.

WATER CISTERNS—HOW TO MAKE THEM.

In many parts of the country where good water cannot be had from wells, or where such springs are remote from the house and farm buildings, resort is had to cisterns, which receive and retain the rain water that is caught from the roofs of the dwelling and out-houses. It is soft and healthy to drink, especially when pure, or made so in the way we shall presently describe. There are, indeed, many places where such cisterns would be found advantageous even though the supply of water from springs and wells may be sufficient for the ordinary uses of the family and the stock in the farm. Sometimes, for instance, the supply is intermittent, varying greatly with the season, and occasionally cut off altogether by a protracted drought. At other times it may be so strongly impregnated with lime or other substances, as to render it, especially to some constitutions, injurious to health. But wherever a cistern is needed the first consideration is as to how it ought to be made so as to combine permanency with cheapness. This we now proceed to state: Where the soil is loose and friable the sides of the cistern should be built up of stone or brick. If these are not to be had, a concrete may be made of gravel and cement, or very coarse sand and cement moulded into blocks, like the *Beton* now so frequently used in France for the construction of walls and bridges. In moulding these blocks, a thin layer of the soft concrete is put into the mould and rammed carefully, another layer of a few inches thick is then put in the mould and rammed in the same manner, then another and another, until the mould is full. The concrete block is then turned out on a clear open space and left for several weeks to dry and harden. But where stone is to be had, no matter of what kind, this trouble is avoided. All such stone should, however, be carefully laid in cement, and when the work is done the whole of the inside of the cistern should also be plastered with cement, and, as it soon hardens, it can at once be put to use. But it often happens that underlying even very light sandy soils there is a stiff clay; and when this turns out to be the case the building of an excellent cistern is very easily and cheaply accomplished. It is only necessary under such circumstances to slope the side walls like an inverted cone, cut off squarely at the bottom. The slope need not be more than one foot in three, or, in other words, just sufficient to allow the cement to adhere to it whilst in the process of hardening. The cement is applied directly to the surface of the slope, and if stopped short of the point at which frost descends into the soil will hold water admirably. Over this cistern there should be a cover resting on the clay, the surface soil of sand being removed for that distance on

purpose to receive it, and care should be taken to guard against the surrounding sand being washed into the cistern during heavy rains.

One part of cement to three parts of clear coarse sand are the proper proportions for making the cement mixture with which the walls of the cistern are to be plastered.

But the best cistern of all is one to which a filter is attached. This is formed very simply. It is only necessary to divide the cistern by a partition across it into two unequal parts—the filter occupying say one fourth of the space. The partition may either be made of stone or concrete—composed of gravel and cement or broken brick and cement, and the bottom of the filter should be about a foot above the bottom of the cistern proper, and the sides of the filter next the cistern and nearly at the bottom of the filter should be pierced with holes, filled with coarse sponge, through which the water percolates into the cistern—or, in a rougher way, minute holes may be made in the lower side of the filter and the sponges dispensed with. Now lay at the bottom of the filter a foot or more of coarse clean sand, and over this again a layer of pounded charcoal two feet in thickness, and over this again a layer of small pebbles or very coarse sand to prevent the charcoal from being stirred up as the water, during rains, comes pouring in. Thus formed, the filtering apparatus is complete, but access must be had to the filter by means of a close-fitting trap, for the materials of which the filter is composed will require to be taken out occasionally and cleansed as the suspended impurities are left behind on the charcoal and commingled with the upper stratum of sand or gravel; but this cleansing process will not be required more than once or twice in a season. Every one who requires pure drinking water, bright, sparkling and healthy, should by all means, if a cistern is used, make provision also for a filter.

WILD FOWL IN MARYLAND.—From the 20th day of October to the 15th day of January is the time fixed by law for the shooting and trapping of partridges in Maryland. The following is the provision of the law on the subject: "No person shall trap, shoot, or in any manner catch or kill any partridges between the 15th day of January and the 20th of October; nor any woodcock between the 1st day of February and the 10th day of June; nor any pheasants between the 1st day of February and the 12th day of August in each year."

The new tariff admits duty free all kinds of animals from beyond the seas imported for breeding purposes. Also, animals brought in for exhibition and to be returned, also; animals with harness and tackle, owned by emigrants; also, eggs and silkworms' eggs.

The Free Mason Peach—A New Late Variety.

We have received specimens of a new late peach from Messrs. Kemp & Kerr, of Den'ou, Caroline co., Md., which they call the "Free Mason Peach." The samples were in excellent condition, of good quality, and ripening after the Smock, will become a desirable variety. The following we extract from a letter addressed us by the Messrs. Kemp & Kerr:

"We express to your address to-day a small box, containing three specimens of the "Free Mason peach," (a variety brought to our notice and named by Rev. R. W. Todd of this county.) The fruit usually is considerably higher colored than the peaches sent you, but we had to take them *when we could get them*, and hence they are not fully ripened. It is a sure and good bearer, it being the only tree in an orchard of one thousand that produced fruit in 1868. It ripens three days later than the Smock, in the same soil, and, as you will perceive, is much larger, handsomer, and so far superior in quality that in this respect it will not admit of comparison. As we have no good and reliable free-stone variety, (outside of the "Freemason," ripening between the Smock and the Heath cling, this is quite an acquisition to the list of peach grower's market varieties. We have been propagating it extensively for three years, and soon, we trust, you will see it plentifully in your market."

INVITATIONS.

We acknowledge the receipt of invitations to attend the following Fairs to be held this fall, for which we return our thanks:

From Cotton States Mechanics' and Agricultural Fair Association, to be held at Augusta, Ga., beginning October 25th, to continue five days.

From the South Carolina Agricultural and Mechanical Society, to be held in Columbia, 9th of November, and continue five days.

From the Illinois State Fair, to be held at Decatur, from September 26th to October 1st, 1870.

From Shenandoah Valley Agricultural Society, to be held on the 26th, 27th and 28th days of October, at Winchester, Va.

From the Frederick County Agricultural Society, to be held at Frederick City, Md., on October 11th, to continue four days.

From Carroll County, Agricultural Society, to be held at Westminster, Md., on October 4th, to continue four days.

From Washington County Agricultural Association—12th annual exhibition—to be held October 18th, to continue four days, at Hagerstown, Md.

From the Agricultural and Mechanical Society of Alleghany County and West Virginia and Pennsylvania, to be held at Cumberland City, Md., on the 4th of October, to continue four days.

MANURING WHEAT.—A correspondent of the *Country Gentleman*, at Auburn, Va., propounds the following: "I want to know the best way to administer stable manure to wheat. Is it by turning under or by top-dressing? If the latter, in the Fall or Spring? Our soil is of the limestone character, inclined to be loamy on top, with a heavy clay subsoil."

[*Answer.*—If the soil is quite poor or exhausted, and there is abundance of manure, apply a part before plowing, harrow well to intermix it, and turn it under. After plowing, top-dress with another portion, and harrow well before drilling in the wheat. If the land is in fair condition, an application of the top-dressing alone will answer. Applied in this way, especially to heavy soils, manure will go far, and produce highly beneficial results, even if not more than ten or twelve loads per acre. It enriches the top soil, starts the young plants, keeps the surface moist and friable, protects from the cold of winter, and assists the catch of grass seed as well as the rapid growth of the young grass. It is generally best to apply other manure to previous crops—for example, if clover is turned under for the wheat, apply the manure the previous autumn as a top-dressing to the clover.]

Planting Wheat.

On putting the seed in well, there is known to be a difference of several bushels to the acre. In England, where the yield is from ten to twenty bushels per acre more than here, the wheat is drilled immediately after rain, and if the soil packs down firm and a "dry settling" takes place, the prospect of a good crop is enhanced. On the light soils sheep were driven in large flocks for hours, regularly up and down across after the planting, to give this desirable firmness, but as driving the flock tires and lessens the flesh, rollers with pegs and some with small iron wheels, are used to press down the surface. This prevents slugs, wire worms, &c., from getting about among the roots, prevents any freezing out, and the young plants certainly look healthier and altogether more prosperous where this treading or packing down is attended to. The worst possible time to plant autumn grain is considered to be when the dust blows, while on the contrary, in spring seeding barley, &c., a peck of dust is said to be worth its weight in gold.—*Cor. Country Gentleman.*

R. H. ALLEN & Co., NEW YORK.—We call attention to the advertisement of this house, which will be found on the last page of cover. They offer to the farmer, planter and the trade every variety of labor-saving implements and machinery of the most improved patterns and of the best workmanship.—This house is well known throughout the country.

CHEMISTRY OF PLANTS.

The following interesting and valuable facts, in connection with the growth of plants, and the substances which facilitate this growth, are mostly gleaned and condensed from that admirable and suggestive work for thinking farmers, Prof. Johnson's volume, entitled "How Crops Feed," which we copy from the *Country Gentleman*:

OXYGEN.—Plants require oxygen. De Saussure found that flowers consume, in twenty-four hours, several or many times their bulk of oxygen gas. The pistils and stamens absorb it energetically. Garreau found that the spadix of *Arum italicum* absorbed twenty-eight times its bulk of oxygen in one hour, which raised its temperature fifteen degrees higher than the surrounding air.

NITROGEN.—Very careful and elaborate experiments show that plants do not absorb free nitrogen from the air, although in such great abundance; while its compounds furnish nitrogen with extraordinary effect on plants.

WATER.—Wilting is prevented, and plants are restored from its effects, in damp air, not so much by the leaves absorbing moisture as by the moisture preventing evaporation, while the water comes up inside the plant from the stem and roots.

CARBONIC ACID.—The oxygen gas which is evolved from the leaves of growing plants in sunlight, does not come from the decomposition of water, but from the carbonic acid present, the plant taking the carbon and discharging the oxygen. When the water which plants are supplied with has been purposely freed from carbonic acid, no oxygen gas is evolved by the foliage in sunlight.

In the dark, carbonic acid is evolved from plants, and not oxygen. In the shade of dense forests the leaves sometimes throw off one and sometimes the other in preponderating quantity. Plants exhale carbonic acid when placed in a room with but one window. In the shade, tobacco, lupine, sunflower, cabbage and nettle, evolve carbonic acid; and the pea, lettuce, violet, periwinkle, and others, evolve oxygen. Young plants throw off the most carbonic acid, which commonly ceases as they grow older. Most plants absorb as much carbonic acid in fifteen or twenty minutes in the sunlight as they exhale during a whole night. A single colza plant took in two quarts of this gas in one bright day.

Quantity of Carbonic Acid.—The atmosphere contains only about 1-2500 part of this gas, yet so great is the volume that encircles the earth, that the whole amount in the atmosphere is estimated at 3,400,000,000,000 tons. Every acre has twenty-eight tons of this gas in the air above it. An acre of beech forest converts into wood, in one year, about one ton of carbonic acid. If there were none of

this gas restored to the air, by combustion, breathing, &c., it would require about a hundred years for the plants and trees on the earth to consume it all.

AMMONIA.—The quantity of ammonia in the air is very small, and varies in different places, so that chemists differ greatly as to its quantity. Several chemists have made it about one ten-millionth, while the smallest estimate is one part in fifty millions, which is probably nearest the truth.

As the carbonic acid of the air is so much greater, it is evident that the ammonia is in a state of carbonate.

Plants absorb ammonia unaffected one way or the other by sunlight. When they have all they will bear, the growth is rapid, bowing is checked, and stems and leaves produced. It deepens the color of foliage. The plants also contain more nitrogen in proportion to their weight than those which have a smaller supply while growing. Hence manure from plants amply supplied with nitrogenous fertilizers, is richer than from feeble growers scantily supplied with them.

Rain absorbs and brings down as it passes through the air in its descent, the ammonia diffused through it. A long rain has at first much ammonia in it, and at last very little or none. After a long drouth more is brought down than after a shorter period of dryness. The quantity of ammonia in rain water varies from one to thirty-three parts in ten million. Still larger quantities have been obtained in cities. The quantity usually found in rain and snow water is not far from an average of one-millionth part—although varying greatly. Hence we may infer that the yearly rain-fall on one acre contains about six or seven pounds of ammonia, which, according to Prof. Johnson's analysis, is only about one-sixteenth part the quantity contained in "black garden soil." If we may judge of the amount of nitrogen required yearly for the growth of crops by vegetable analysis, rain water supplies but a small portion. The nitrogen in a crop of wheat of twenty-five bushels per acre is about forty pounds, or seven times as much as the average that comes down in rain and snow. The nitrogen in a heavy crop of clover is about one hundred pounds per acre, of which the rain supply is only one-sixteenth part. Peruvian guano and nitrate of soda each contain about 15 per cent. of nitrogen, and forty pounds of either would be about equal to the annual natural supply from rain.

NITROGEN MANURES.—Thirty bushels of wheat and 1,600 pounds of wheat straw, contain 45 pounds of nitrogen; clover contains two or three times as much nitrogen; yet wheat is especially aided by nitrogenous fertilizers, while clover may be produced without them, as it is able to collect nitrogen itself. In this way clover proves so valuable as a fertilizer for wheat. It has become a

rule in practice in England, where systematic rotation of crops is followed, to apply nitrogenous manures to cereals, and phosphates to turnips. Clover supplies itself with nitrogen through its leaves, until the crop is gathered; the functions of the foliage in grain crops decline as the seed begins to develop, and the means of the plant for providing itself with assimilable nitrogen fail, although their need for it still exists.

AMMONIA AND NITRIC ACID.—Ammonia and organic matters, on the one hand, azote, nitrous and nitric acid, on the other, contained in the atmosphere, are constantly acting on each other. They are perpetually composed and decomposed in the atmosphere, and at the surface of the soil. Nitric acid, although found in the atmosphere, doubtless exists in the air in combination with ammonia. As a small bulk of rain washes an immense volume of air, nitric acid is found more abundantly in rain water than in the air itself. The nitrates are rarely too small to be detected in rain water. The greatest quantity of nitric acid found was sixty-two parts in ten million parts of water, by one chemist, and ninety-eight and one hundred and one by two others. More commonly about four or five parts in ten million of water, have been found. This is about three pounds of nitrous acid per acre in one whole year. In one case, hail was found to contain free nitric acid, and to be perceptibly sour to the taste. Nitric acid and ammonia in the air, without being collected by rain or dew, are in such minute quantities as to have no appreciable influence on vegetable growth, by any method hitherto employed.

The following substances are **ABSORBED** by plants:

Oxygen, by roots, flowers, ripening fruit, and all growing parts.

Carbonic acid, by foliage and green parts, only in the light.

Ammonia, as *carbonate*, by foliage, probably at all times.

Water, as liquid, through the roots.

Nitrous and Nitric acid, } united to ammonia, dissolved in water, through the roots.

Ozone
Marsh gas, } uncertain.

The following are **NOT ABSORBED** by plants:

Nitrogen, and *water in vapor*.

The following are **EXHALED** by plants:

Oxygen } by foliage and green parts, only in the light.
Ozone }

Marsh gas, in traces, by aquatic plants?

Water, as vapor, from the surface of plants at all times.

Carbonic acid, from the growing parts at all times.

The boughs that bear most hang lowest.

HUMAN BONES AS FERTILIZERS.

The manufacturers of phosphate of lime for artificial manures generally employ for the purpose the bones of animals. In this country, the battle-fields of the late war have furnished large quantities of horses' bones. Sometimes human bones are accidentally collected among the rest; but the care and reverence with which the dead on both sides have been buried prevents such unpleasant occurrences almost entirely. Not long ago, much indignation was caused in England by the report that cargoes of human as well as animal bones were shipped from the Crimea to the British manufacturers. How much foundation there was for the story we do not know. Certainly the objection of civilized people to seeing the remains of their fellow-citizens or ancestors brought into commerce is most natural.

The English manufacturers appear not to be satisfied with the supply of the bones of animals, either because it is not adequate to the demand or because its scattered sources and the consequent expense of collection leave too little margin of profit. They have at last found a country rich in bones, and possessed of a population not too scrupulous to sell them. The mummy-pits of Egypt, containing thousands of tons of the bones of ancient Egyptians, are now "worked" on a large scale. The bones are dug out, cleaned and sifted, packed in bags or bundles of two hundred pounds each, slung to the sides of camels, and transported to Alexandria, where they are shipped to England. The business affords a brisk trade to the modern Egyptians, and employs a large number of the population; in justice to whom we should add, that they are probably not descendants of the venerable worthies whose relics they put to such base uses.

It is curious to reflect that the phosphate of lime which once formed the frame of a member of the Egyptian aristocracy should, after a quiet repose of some thousands of years, enter upon a new career of usefulness in a distant land as an excellent manure for turnips and other garden vegetables, which may in turn furnish the necessary phosphate of lime to give backbone to the British aristocracy. Great Cæsar stopping a hole to keep the wind away is nothing in comparison!

What future tradesmen will grow rich, and what future turnips thrive, we wonder, on the tombs of Westminster and St. Paul's, or the vaults of Cologne Cathedral, or the ghastly sepulchre of the Capuchins at Rome? The more carefully the bones of the great or the sainted are preserved, the less likely, it would appear, are they to "rest in peace."

—*The Manufacturer and Builder.*

Upright walking is sure walking.

CONDITION OF THE CROPS.

From the Monthly Report, for August and September, of the Department of Agriculture, we glean the following condition of the crops:

CORN.—This crop has been injured somewhat in localities by the drought, by wet weather, by the heat, by worms, and by early frost, but not sufficiently as yet to threaten a material reduction of the aggregate product heretofore anticipated. The great corn-producing State of Illinois reports the condition of the crop September 1 at 15 per cent. above an average. Missouri, ranking next to Illinois last year in corn production, reports the condition 6 per cent. above average; Indiana claims 25 per cent. above; Ohio, 10 per cent.; Kentucky, 10 per cent.; Tennessee, 20 per cent.; Pennsylvania, 5, and New York, 10 per cent.; Michigan and Wisconsin, 15 per cent.; Minnesota, 10 per cent.; North Carolina, 10 per cent.; South Carolina, 13 per cent.; Georgia, 14, Florida, 15, and Alabama, 7 per cent.; Louisiana, 12, Texas, 4, and Arkansas, 14 per cent.; West Virginia, 16 per cent. Of the New England States, Maine and Vermont report the condition above an average; the former 5 per cent. and the latter 15. New Jersey shows 10 per cent. above an average, while Virginia and Iowa report the promise a full average. The States showing a condition below an average are, New Hampshire, 12 per cent.; Massachusetts, 15; Rhode Island, 9; Connecticut, 20; Delaware and Maryland, 10; Mississippi, 2; Kansas, 12, Nebraska, 5; California, 4, and Oregon, 5 per cent. The crop is one to three weeks in advance, and without early severe frosts promises to escape serious injury from that source.

COTTON.—There is considerable complaint of damage to the cotton crop from the rust, the worms, and unfavorable August weather, but the general prospect is not discouraging. The average of reports from North Carolina shows the condition 5 per cent. better than at same date last year; but there are reports of injury by rust, and of bolls falling off, caused by wet weather. South Carolina, 5 per cent. above, but rust prevalent, and the yield diminished by intensely hot and dry weather. Georgia, 5 per cent. above, with the rust and the worms deteriorating the crop to some extent. Rust and dry weather have done considerable damage on the gray lands fertilized with guano. In Florida the condition is 15 per cent. above last year. In Alabama the rust, the drought, and the boll-worm have wrought serious damage, while in some localities rain has induced rot and extensive shedding of young bolls; an average of reports, however, shows the general prospect in the State to be as good as at the same date last year. Mississippi also reports an average condition, though complaints are numerous of the depredations of the boll-worm and of the shedding of bolls from frequent rains. Louisiana, 8 per cent. above average condition; the crop is later than usual, and the rains and the caterpillars have done some damage. Texas, 9 per cent. above, with increased acreage. Our Cameron County reporter says, "This valley produced 400 bales last season; will probably produce 2,000 bales this year." The worm has done much damage, and excessive rains have been disastrous in some localities. Arkansas promises 10 per cent. better than at this date last year, with few complaints of injury. The condition in Tennessee and Missouri is about an average, though several correspondents rate the

crop considerably below that of last year, unless there should be a similarly favorable fall. There is little in the figures of our reporters to indicate a decreased yield of cotton, and favorable weather henceforth must insure considerable increase.

WHEAT.—Our returns upon this product pertain chiefly to the condition of the crop when harvested, though the figures indicate in a measure the extent of the yield as compared with an average. At the date of reports, however, the grain had not been thrashed out to any considerable extent, so that our October returns must be had before an estimate of the aggregate wheat production of the year can be made. On condition, when harvested, the States report as follows, (the figures 10 representing an average.) Maine, 10.1; New Hampshire, 9; Vermont, 9.6; Massachusetts, 10; Connecticut, 9.7; New York, 9.1; New Jersey, 8.1; Pennsylvania, 9; Delaware, 7; Maryland, 8.2; Virginia, 9; North Carolina, 10.5; South Carolina, 9.5; Georgia, 11; Alabama, 11; Mississippi, 10; Texas, 9; Arkansas, 10.6; Tennessee, 9.8; West Virginia, 10; Kentucky, 9.6; Missouri, 9.3; Illinois, 10.1; Indiana, 9.5; Ohio, 9.5; Michigan, 9; Wisconsin, 10; Minnesota, 9.8; Iowa, 10.2; Kansas, 10; Nebraska, 9.5; California, 9.7; Oregon, 10.3. In New York the gathered crop has been injured by heavy rains. In New Jersey and Pennsylvania, complaints are heard of shrunken grain, in some cases "hardly worth thrashing." The "scab" proved a serious injury in Maryland and Virginia, caused by heavy rains previous to harvest. Some smut in North Carolina, and injury from wet weather in West Virginia. In Kentucky there was considerable rust in the low lands along the Ohio and Kentucky rivers. Frequent rains have damaged the grain in the shock in Tennessee and Minnesota. The Michigan harvest was frequently interrupted by rain and some grain sprouted in the shock. In Kansas the crop was gathered in good condition, but was considerably damaged by damp weather in August. The quality of the grain thrashed is generally excellent, in many cases compensating for deficient quantity.

RYE, OATS AND BARLEY.—These crops were generally harvested in good condition, with slight drawbacks. There is an apparent diminution in the rye crop, and also in the barley product. Estimates of the yield of each will be given in our next report.

BUCKWHEAT.—Tennessee, Michigan, North Carolina, West Virginia and Wisconsin are the only States which report the prospect for buckwheat above or up to an average; the Middle and Western States indicate a decline of 5 to 10 per cent.; New England, 15 to 20 per cent. The drought has blighted the crop in some localities.

POTATOES.—The drought in many sections, and destructive insects in others, especially in the West, have materially reduced the potato crop. North Carolina, Georgia, Arkansas, Tennessee and Kentucky alone report the crop above an average—5 to 12 per cent. Connecticut, New Hampshire, Massachusetts, New Jersey, Missouri, Illinois, Indiana, Wisconsin, Minnesota, Iowa, Kansas and Nebraska report a decline varying from 20 to 30 per cent. Maine, New York, Ohio, Michigan, 10 to 20 per cent.; and Vermont, Pennsylvania, Maryland, Virginia, South Carolina, Alabama, Texas, California and Oregon, 5 to 10 per cent. decline. Sweet potatoes promise a fair general yield, though Delaware, Maryland and Virginia show a decline of 10 per cent. in prospect of yield, with a falling off in

several of the Western States. New Jersey, South Carolina, Georgia, Florida, Texas, Arkansas, Tennessee, West Virginia, and Kentucky promise a slight increase.

HAY.—The product of hay appears to be about 15 per cent. short of last year's crop in New England; 20 per cent. in New York; 15 to 20 per cent. short in Illinois, Missouri, Indiana, Ohio, Wisconsin, Iowa and Nebraska; and 5 to 10 per cent. in Pennsylvania, Delaware, Michigan, Minnesota and Kansas. An increase of 5 to 12 per cent. is reported in New Jersey, Maryland, Virginia, North Carolina, South Carolina, Georgia, Arkansas, Tennessee, West Virginia, Kentucky and California; and of 30 per cent. in Oregon. In most of the States the quality of the crop is above average.

SORGHUM AND SUGAR CANE.—Sorghum appears to have been almost entirely neglected east of Pennsylvania. The crop in most of the Western States is reported in fair condition; above average in Tennessee, West Virginia, Kentucky, Illinois, Indiana and Minnesota; also in Pennsylvania, North Carolina, South Carolina, Georgia and Texas, in some of which latter States increased interest is being shown in this really valuable product. Louisiana and Florida report the sugar crop 5 to 10 per cent. above average; Texas, Mississippi, Alabama and Georgia, report from an average to 10 per cent. below.

HOPS.—California is the only State that reports increased acreage in this product. Ohio claims an undiminished acreage, but all the other hop-growing regions show a decline of 5 to 15 per cent.—Wisconsin, 10; Michigan, 15. The condition at date of reporting was generally 5 to 15 per cent. below an average.

TOBACCO.—This crop is reported 14 per cent. below average in Connecticut, 7 below in Massachusetts, 10 in Maryland, 17 in Mississippi, 4 in Texas; and 2 above in New York, 5 in Pennsylvania, 4 in Virginia, 14 in North Carolina, 10 in South Carolina, 13 in Georgia, 10 in Arkansas; 9 in Tennessee, 5 in West Virginia, 6 in Kentucky, 3 in Indiana, 2 in Ohio; and an average in Missouri, Illinois and Michigan.

FRUITS.—Though there is much complaint of apples falling during the last two months, and of retarded growth caused by the dry weather, a fair product is promised in the Eastern and Middle States generally, and in Virginia, North Carolina, South Carolina, Tennessee and Kentucky, with from six to nine-tenths of an average crop in the Western States. Peaches have been about three-fourths of a crop in Delaware; an average crop in New Jersey; from 10 to 20 per cent. below an average in New York, Pennsylvania and Maryland, Virginia, North Carolina, South Carolina, and Florida; three-fourths of a crop in Michigan, and in the West, generally, half to two-thirds of an average yield. Grapes promise an abundant yield almost everywhere, and the general product must be very large. Delaware, North Carolina, Georgia, Alabama, Mississippi, Texas, Arkansas and Tennessee, report less than an average crop; the other States report variously from average up to 25 per cent. above.

WOOL.—A slightly increased weight of fleece as compared with an average yield of wool is reported in New Hampshire, Massachusetts, Maryland, Arkansas, Minnesota and Oregon; and an average weight in Virginia, Kansas and California. Other

States report a decline ranging from 2 to 10 per cent. A small general decline is probable.

STOCK HOGS.—There is a decrease reported in the number of fattening hogs, as follows: New Hampshire, Massachusetts, Rhode Island, Georgia, Florida, Alabama, Louisiana, Arkansas, Illinois, from 2 to 5 per cent.; in Indiana, Texas and Oregon, 5 to 10 per cent.; and an increase of from 2 to 5 per cent. in Maine, Vermont, New York, New Jersey, Pennsylvania, Virginia, North Carolina, South Carolina, Tennessee, West Virginia, Kentucky, Ohio, Michigan, Wisconsin, Minnesota, Iowa and California; and 5 to 10 per cent. in Missouri, Kansas and Nebraska. The condition as to size and weight generally compares favorably with that of former years, except in several of the Southern States, and in Illinois, Indiana, New Hampshire, Massachusetts, Connecticut and Oregon, which indicate depreciation in this regard.

MUSTY OATS.—A South Carolina correspondent, after reporting the loss of a horse, supposed to result from eating musty oats, says: "I am certain more horses die in the South from eating damaged oats than from all other causes. As the oats are cut rather green, and often with many green weeds among them, it is very difficult to keep them from molding more or less in the centre. Many animals die from this cause, which are supposed to have had blind staggers, as in the case of mine. Another horse recently died near me in the same way, after being fed on oats mostly sound, but some of the bundles musty in the middle."

AN INEXPENSIVE ICE-HOUSE.—S. Mead, of Milford, Mass., would know how large and in what way to build an ice-house to contain four or five tons of ice, or sufficient to supply a family, and what would be the probable expense. P. T. Quinn—"Let him part off, say, ten square feet of his woodshed or barn, and dig a drain from the bottom, which may be three or four feet below the general level of the ground. Provide a quantity of marsh hay or straw. When the ice can be cut in large blocks, pile it in a cube 8 by 8, and then stamp the straw very solid all around and throw plenty on top."

New Advertisements.

R. H. Allen & Co.....	Agricultural Implements, &c.
E. Whitman & Sons.....	Premiums at the Fair.
W. S. Little.....	Mount Vernon Pear.
Farmer and Artisan.....	Medium to Advertise.
Colwells, Shaw & Willard	
Manuf. Company.....	Tin-Lined Lead Pipe.
N. P. Boyer & Co.....	Amer. Stock Journal—Chester
	White Pigs.
B. W. Jones.....	Wants Catalogues, &c.
E. G. Edwards.....	Pile Medicine.—Bermuda
	Tonic.
Dr. H. Schroder.....	1,000,000 Grape Vines.
Frost & Co.....	Genesee Valley Nurseries.
J. W. & M. Irwin.....	White Chester Pigs.
Wm. Parry.....	50,000 Peach Trees.
C. A. Clegg & Co.....	Patent Brooms.
M. Wagner & Co.....	Agents Wanted.
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Horticultural.

OUR REVISED FRUIT LIST.

We again present to our readers, as the time approaches for transplanting, a revised list of Fruit Trees, Vines, &c., which we can recommend for general cultivation. Twelve or fifteen varieties of pears and eight or ten of apples are all-sufficient, provided they are the best adapted to the soil and locality—a fact which each one, upon trial, must judge for himself. Frequently a pear, an apple, or a grape may do well for a few years, and then deteriorate; or may do excellently well in one location and not in another, though separated by a very narrow space. In such a case it had better be disposed of by grafting it with more reliable varieties. We have changed our opinion respecting a number of fruits within the last half dozen years, and yet in some of the instances we are convinced the fault was in the location and soil.

According to our present preference, we should select the following for our own planting:

STANDARD PEARS.

- | | |
|-------------------------|---------------|
| 1. Doyenne D'Ete, | 10. Seckel, |
| 2. Early Catharine, | 11. Giffard, |
| 3. Bloodgood. | 12. Howell, |
| 4. Juliana, | 13. Lodge, |
| 5. Tyson, | 14. Shelden, |
| 6. Bartlett, | 15. Anjou, |
| 7. Belle Lucrative, | 16. Lawrence, |
| 8. Buffam, | 17. Feaster. |
| 9. Manning's Elizabeth, | |

For those who may desire a smaller number, we should select: 1. Doyenne d'Ete; 2. Bloodgood; 3. Tyson; 4. Belle Lucrative; 5. Seckel; 6. Giffard; 7. Lawrence. They ripen in the order they are arranged.

Of the above general list, from No. 1 to 5 are summer varieties; from 6 to 14 autumn, and 16 to 17 winter, thus affording a sufficient number for each of the periods, of the best known sorts for this region.

DWARF PEARS.

- | | |
|----------------------------|-------------------------|
| 1. St. Michael D'Archange, | 7. Belle Lucrative. |
| 2. Bartlett, | 8. Lawrence, |
| 3. Comice, | 9. Dearborn's Seedling, |
| 4. Rostiezer, | 10. Feaster, |
| 5. Diel, | 11. Bosc, |
| 6. Tyson, | 12. Boussack. |

APPLES.

- | | |
|--------------------|---------------------|
| 1. Maiden's Blush, | 5. Smith's Cider, |
| 2. Baldwin, | 6. Northern Spy, |
| 3. Russet, | 7. Fornwalder, |
| 4. Jefferis, | 8. Cornell's Fancy. |

PEACHES.

- | | |
|----------------------|---------------------|
| 1. Crawford's Early, | 5. Crawford's Late, |
| 2. Hale's Early, | 6. Ward's Late, |
| 3. Troth's Early, | 7. Freeman's White, |
| 4. Oldmixon, | 8. Smack's Yellow. |

GRAPES.

- | | |
|------------------|-------------------|
| 1. Telegraph, | 5. Martha, |
| 2. Concord, | 6. Creveling, |
| 3. Hartford, | 7. Delaware, |
| 4. Rogers No. 4, | 8. Rogers No. 32. |

CHERRIES.

- | | |
|---------------------|----------------------|
| 1. May Duke, | 5. Belle Magnifique, |
| 2. Early Richmond, | 6. Downton, |
| 3. Black Tartarian, | 7. Elton, |
| 4. Black Eagle, | 8. Kentish or Pie. |

RASPBERRIES.

- | | |
|-----------------------|----------------------|
| 1. Brinckle's Orange, | 4. Philadelphia, |
| 2. Hornet, | 5. Clarke, |
| 3. Catawissa, | 6. Hudson's Antwerp. |

STRAWBERRIES.

- | | |
|------------------------|----------------------|
| 1. Russell's Prolific, | 3. Hovey's Seedling, |
| 2. Triumph de Gand, | 4. Albany Seedling. |

CURRENTS.

- | | |
|------------------|---------------|
| 1. Black Naples, | 2. Red Dutch. |
|------------------|---------------|

GOOSEBERRIES.

- | | |
|--------------|-------------|
| 1. Houghton, | 2. Downing. |
|--------------|-------------|

BLACKBERRIES.

- | | |
|--------------------|----------------|
| 1. New-Rochelle, | 2. Dorchester. |
| 3. Wilson's Early. | |

It is better that those who intend to cultivate fruit, and have to make purchases, should take this list with them to the nursery, and adhere to it as far as possible. It is not fair to the nurseryman to ask *him* for a list of the best sorts, as he has all kinds to sell, to accommodate every taste and demand.

The amateur, or those who want only a few varieties, will find the above list entirely reliable, and hence cannot go wrong by adhering to it.—*Ed. Germantown Telegraph.*

BARK LICE ON APPLE TREES.—The editor of the *Maine Farmer*, in reply to a correspondent, gives the following description and remedy:

"Bark lice when well grown appear like long curved oyster shells clinging close to the bark, which they resemble in color. They are, say one-tenth or one-eighth of an inch long. They begin life in early summer, or last of May, little white louse like creatures, coming out from under the brown shells of their mothers. They are quite active for some days, and employ their time in spreading about all over the tree. They then attach themselves to the tree, piercing the bark, sucking out the juices, growing constantly, but never again moving. They are as tender as any insect when first hatched, but with age become very tough. The only ways that we know of to destroy them, are to scrape them off the tree, or give them a washing with soap-suds when they are in their tender infancy. The latter mode is the most practicable, and if these are the creatures that are troubling your trees, wait until next May, and then as soon as you can see the little creatures running about, give every part of the tree a swabbing with soap-suds."

If fruit growers will but take the trouble to remove the windfalls from beneath the trees, and feed them to the swine, a very great check may be placed upon the increase of that great pest to the apple growers, the codling moth.

Dig Around the Trees.

This advice needs to be repeated daily. Every farmer knows that a hill of corn or potatoes will not amount to much unless cultivated, and yet there are many who will neglect to give the same care to a tree, which is worth a hundred hills of either of the former. In rich soils, trees may grow rapidly without cultivation, and no amount of grass or weeds will retard them; but there are other things besides growth to be looked after. If the weeds and grass are allowed to grow up around the stems of apple, peach, or quince trees, the bark will become soft near their base by being shaded, and thereby be in a suitable condition for the reception of the eggs which will eventually become peach or apple borers. Take any dozen young apple-trees in sections where the apple-tree borer is abundant, and allow a portion to be choked with weeds, and the remainder well cultivated, and then watch the result. From our own experience, we believe that the chances are nine to one in favor of those cultivated being exempt from this pest. The same is true in regard to many other trees which are liable to the attacks of various species of insects. Young evergreens should never have their lower branches shaded with weeds and grass, and the soil as far as the lower branches extend should be stirred at least once in two or three weeks during the entire summer, or else apply some kind of mulching that will effectually keep down the weeds. When the trees become large and strong, these precautions will not be necessary. Every blade of grass or small weed that is allowed to grow about the stem of young trees will rob the soil of moisture, and this fact alone ought to be sufficient to make every one practice thorough and careful culture.—*Exchange*.

A COOL SURFACE FOR TREES AND VINES.—“If a grower will take two rows of pear trees, and mulch one and not the other, he will find in fruiting time the mulched row has both larger fruit, handsomer skins, and the leaves and branches are both healthy and vigorous. In the other row, the soil is heated by the rays of the sun, warmth is stronger than the moisture necessary to supply the growing needs of the roots, and the tree is scorched or withered.—Nature is our best guide—observe all trees in all places; a natural layer of leaves gathers gradually on the ground and protects the roots against the hot suns of summer and the heavy frosts of winter.”—So somebody writes and in the main correctly. Our own experience confirms what he says, and this is perhaps the reason why all fruit-trees, when once well-established, do better in grass than in cultivated fields.—*Ed. Ger. Telegraph*.

Virtue and happiness are mother and daughter.

Hale's Early Peach.

This fine, promising and very early peach, from which so much was hoped a few years since, has been more recently rejected in many localities on account of its liability to rot—the whole crop being often lost in this way. The Rural New-Yorker quotes from a western correspondent the statement that this difficulty is entirely prevented by checking the growth of the trees, by seeding to grass. Last year he sowed his orchard to clover, and this year made a hog-pasture of it; the results was “a splendid crop.” Another cultivator abandoned his orchard of Hale's Early as worthless; and when the weeds and the neglected soil checked their growth, he had “wonderful crops.” This peach is known to rot more on rich than on poor land, on young and thrifty than on old and slow growers. It is obvious, however, that discretion must be used in seeding to grass, as the trees might be too much checked, to the detriment of the fruit. Pasturing with swine and small animals keeps the grass short, and their droppings become an enriching top-dressing—preserving a medium in growth between rich cultivation and neglected sod.—*Country Gentleman*.

EVERGREENS—AN ENDORSEMENT.—The following suggestion from the *Horticulturist* precisely endorses what we have often recommended, indeed almost in our own words:—“A good coat of manure, applied every fall, as far out as the branches extend, will insure next season a deep glossy green to the foliage; the effect is sometimes so peculiarly ornamental, it seems as if the shrubs or trees were of a new variety. The Norway Spruce, we have often observed in some grounds, of a light, sickly green, while in other yards it is of a fine deep color; the difference comes only from treatment, one is in poor soil, the other is in rich. Those who wish their evergreens and shrubs to thrive and grow handsome every year, will not fail to remember this hint. Do not apply fresh manure, it should always be well-rotted.”—*Ed. Ger. Tel.*

SIMPLE HORTICULTURE.—A very pretty mantle ornament may be obtained by suspending an acorn, by a piece of thread tied around it, within half an inch of the surface of some water contained in a vase, tumbler or saucer, and allow it to remain undisturbed for several weeks. It will soon burst open, and small roots seek the water; a straight and tapering stem, with beautiful, glossy green leaves, will shoot upward, and present a very pleasing appearance. Chestnut trees may be grown in this manner, but their leaves are not so beautiful as those of the oak. The water should be changed once a month, taking care to supply water of the same warmth; bits of charcoal added to it will prevent the water from souring. If the little leaves turn yellow, add one drop of ammonia into the utensil which holds the water, and it will renew their luxuriance,

The Florist.

THE HYACINTH.

This popular favorite is the chief of all the bulbs available for spring. The cheap rate at which it can now be purchased, and the ease with which it can be well, if not superbly, cultivated, places it within the reach of all who possess a garden. It is, indeed, scarcely possible to estimate too highly the qualities of the Hyacinth, as a spring flower.—Whether as regards delicacy of color or sweetness of perfume, it has few equals.

CULTIVATION OF HYACINTHS IN POTS.

As the Hyacinth is frequently mismanaged by the inexperienced, a few remarks are here offered as a guide to those who are unacquainted with the treatment necessary to ensure a good bloom. For blooming soon after Christmas, pot at the end of August, and for blooming in March, pot at the end of September. The soil should be good, rich turfy loam that has been thoroughly decomposed, and some old rotten cow dung or other manure. After potting, either put them in a dark place or plunge them in ashes or decayed tan for a little time, for no other reason than to get the roots fairly started before they start at the crown; and, as a general rule, remove them from such situation as soon as the roots reach the bottom of the pot. They should not remain in the dark sufficiently long to allow the truss to begin growing and become bleached, as is too often the case. Place them on the top shelf of a greenhouse, near to the glass, where they can be well aired, so that the crowns may swell gradually, and vigorous growth be promoted. If wanted early, use a little fire heat; if not, let them take time, and if kept in any airy position they will produce short stiff foliage. When the truss is nearly developed, manure water may be used somewhat freely, as the Hyacinth benefits by feeding when at this stage. *Air well at all times from a few days after their removal from the plunged beds to insure vigorous healthy growth.*

CULTIVATION OF HYACINTHS IN GLASSES.

The best time for planting Hyacinths in glasses is October or beginning of November. Fill the glasses with pure water as far as to touch the bulb, and must be renewed as soon as the ends of the roots begin to look woolly, which happens sometimes after a fortnight or three weeks. A little wood charcoal is very effectual in preventing the water from becoming fetid. Put the glasses in a cool place till the bulbs have made sufficiently long roots, after which they can bear from 60 to 70 degrees Fahrenheit. Give them always as much fresh air as possi-

ble to keep them dwarf, as much light and sun as possible to get the colors in full perfection, and by pouring every day some rain-water on the tops before they are in bloom (a soft shower would do them much good) makes the bells open and large and the flower robust.

Place the glasses always on wood, as stone, brick or iron makes the water too cold for the growth of the roots.

They seldom do well in a close room or on the chimney-piece near or above the fire, and frost or wind does them much harm.

CULTURE OF THE HYACINTH IN THE FLOWER BORDER OR BED OUT OF DOORS.

Any well drained garden soil is easily rendered suitable for the growth of the Hyacinth. If the soil is of a strong, adhesive nature, add two inches of sharp sand and as much well decayed manure, then dig the soil two feet deep with a five-prong steel fork, taking care to mix the sand and the manure with the soil as the work proceeds. Open loamy soils will require merely a liberal dressing of manure and deep digging. Select a dry day for putting in the bulbs, plant in lines nine inches apart, and twelve inches from row to row, the crown of the bulb should be three inches under the surface of the soil. It is as well to cover the bed with three inches of old tan or short litter to exclude frost; remove this, however, when the plant begins to grow through it.

GROWING HYACINTHS, NARCISSUS, TULIPS AND CROCUSES IN MOSS.

The Hyacinth will grow in flower-pots, glass vases, cups and saucers filled with fresh moss, as well as in a compost of good mould; one great advantage of growing them in this way is, that several bulbs of different color may be planted together, and owing to the lightness of the moss, they can be carried to any part of the house at pleasure. Early Tulips, Narcissus and Crocuses may be treated in the same way, excepting that the Crocus will not stand so much heat at the first stage of its growth, and must be turned outside of the window every fine day, and, if not frosty, *all night*, the moss must be kept moderately damp.—*Herendeen.*

TRANSPLANTING ROSES.—Spring is the best though it may be done in October. All the leaves should be stripped off, the shoots pruned closely, and plenty of water given them. Any time after the terminal buds are formed and before the buds start in spring transplanting can be safely done.

Bruised peach leaves are said to be an excellent application for wounds. In some cases, where lock jaw was apprehended, they have cured it as if by magic.

TO HAVE GOOD ROSES.

To secure good flowers, and a constant bloom with the Teas, Bourbons and other perpetual varieties, a few things are necessary. First, all fading and finished blooms should be at once clipped off. Nature seems to tend always to the production of *seed*, as the object of bloom and fructification. As the amateur florist does not want *rose seed*, but *flowers*, allowing the former to remain on is not only unsightly, but is far more exhausting to the plant than profuse blooming.

2d. The rose slug, living on the green parts of the leaf till only the skeleton is left, must be removed without delay. This we accomplish very readily by injecting, with a common tin syringe, soap suds made from carbolic soap, in a common watering pot. The slug works mostly on the under side of the leaf, but the carbolic soap, with which the whole bush should be deluged, if it does not kill outright, soon displaces it by its offensiveness peculiarly obnoxious to all insect life.

3d. The soil around the bush having been manured in the spring and preceding fall with stable manure, soap suds should be applied each wash day, and twice a week about a pint of chamber ley to each plant.

By these means and an occasional shortening in of a too straggling branch, roses may be kept in bloom from early spring till within nearly a month of Christmas.

A slight mulch at the base of the stem, of short grass, hay, or weeds, (in case any of these latter can be found,) will also be a great advantage. If there are no weeds on the property, perhaps a few can be procured at a neighbor's.—*Practical Farmer.*

CLAIMED CURE FOR CABBAGE-WORM.—A correspondent, writing to the *Hearth and Home*, from Hartland, Me., gives the following as "the most effectual remedy" for this pest:

"Take strong soap-suds, add to each gallon one half pound super-phosphate of lime, let it set until thoroughly steeped, then with a brush or swab apply to the plants to both sides of the leaves. This will kill or remove all the worms and eggs, but does not prevent more eggs from being laid, so the operation should be repeated about once in three or four days while the nuisance remains."

ANOTHER CURE.—Samuel C. Wait, of Gouverneur, N. Y., wrote that after he had tried almost every thing else, he applied salt water—a sort of brine, about the strength of that used for curing beef, with success.

HOW TO KILL TREES.—J. Duncan, of Easton, Md., in the *German town Telegraph*, tells how to kill trees, roots and all. "The easiest way that I know of is to cut a trench all around the tree, the inside lowest, and put salt in the trench, and it will do the work."

EDITORIAL EXCURSION.

It was our pleasure to unite with our brethren of the Maryland Press on an excursion to Niagara Falls, at the invitation of the authorities of the Northern Central Railway, which left Baltimore on Tuesday, September 6th, the party numbering, in all, about forty, for whom two special cars were provided through the kindness of the Company. The cars were under the superintendence of Robert S. Hollins, Esq., Secretary of the road since its organization, and S. C. Wilson, Esq., Telegraphic Superintendent. The reunion of the fraternity on the occasion was one of a very pleasant character, many of them not having met since their last annual excursion. The entire trip was one of unalloyed pleasure, nothing occurring to mar the enjoyment. The following gentlemen, editors and invited guests, composed the party:

Hon. George W. Wilson, President, *Gazette*, Upper Marlborough; Geo. Colton, Vice-President and Treasurer, Luther F. Colton, *Maryland Republican*, Annapolis; Wm. H. Ruby, Corresponding Secretary, Dr. Samuel Kepler, *Maryland Journal*, Towson town; J. M. Emerson, *American Union*, Denton; Dr. Chas. E. Tarr, *Denton Journal*, Denton; Freney & Richardson, *Advertiser*, Salisbury; B. Everett Smith, *Worcester County Shield*, Snow Hill; George Y. Maynardier, *Egis and Intelligencer*, Bel Air; A. P. McCombs, *Republican*, Havre de Grace; H. Clay Longnecker and S. Parker Bosley, *Baltimore County Union*, Towson town; Wm. H. Vanderford, *Democratic Advocate*, Westminster; D. M. Smith, *Examiner*, Frederick; John W. Baughman, *Republican Citizen*, Frederick; Charles Cole, *Maryland Union*, Frederick; J. Guest King, *Annapolis Gazette*, Annapolis; E. Wells and F. C. Burgess, *Port Tobacco Times*, Port Tobacco; W. W. Busted, *Centreville Observer*, Centreville; J. Cloud Norris, *Sunday Telegram*, Baltimore; H. N. Gallagher, *Virginia Free Press*, Charles town, Va.; Col. S. Sands Mills, *Maryland Farmer*, Baltimore; John I. Yellott and William Fitzhugh Wharton, *Baltimore County Democrat*, Towson town; A. J. Bowen and Geo. J. Wilson, *Baltimore Saturday Night*, Baltimore; Robert S. Hollins, Secretary Northern Central Railway; John Q. A. Herring, Superintendent Adams Express Co.; Richard Frater, Adams Express Co.; Geo. H. Rodgers, of Maryland Institute, Baltimore; Col. Charles H. Mann, Smedley House, Towson town; Philip L. Moore, Clerk to Sheriff of Baltimore County; John Payne, Clerk's Office, Towson town; R. C. McGinn, Deputy Collector U. S. Int. Revenue, Md.; S. C. Wilson, Superintendent of Telegraph, N. C. R. W.

We have not space to appropriate to a detailed account of the many points visited, all of which have been so graphically described by many of our brethren. After a ride through the Valley of the Gunpowder, then down the Codorus, we reached the thriving borough of York; after a brief stay we were off again, gliding along the beautiful Susquehanna until we reached Harrisburg, the capital of Pennsylvania. Leaving Harrisburg we reached Williamsport, the lumber mart of the State, and remained all night at the new "Herdic House," under the management of R. S. Dodson, formerly of the "Old

Fountain," in Baltimore. We remained long enough at this place to explore the beautiful city with its Nicholson pavements, fine residences and charming gardens richly bedecked with the choicest of Flora's productions. Herdic's fish ponds, for raising trout, were examined with much interest by a number of the party. We passed Trout Run and Ralston, new watering places, and reached Elmira at 11 o'clock, A. M., and after a brief stay sped on for WATKINS' GLEN, the principal point of attraction, saving Niagara, to most of the party. We cannot resist the introduction of a brief description of this wonderful Glen by the editor of the *Baltimore County Union*:

"A ride of forty miles through a fine country brought us to that romantic place, Watkins' Glen, at the head of Seneca Lake. Here is the beautiful country seat of Schuyler county, Watkins, a clever town of three thousand inhabitants. After the removal of the dust accumulated upon us during the travel from Williamsport, we put off for this Glenn.

This is a vast gorge, wild, romantic, picturesque, odd in appearance in some places, grand, beautiful and enrapturing in others, about two miles in length, varying in height, we suppose, from fifty to two hundred feet, in width from twenty to one hundred and fifty feet. Its formation has resulted from the action of the water upon the stratified rock for ages, removing loose portions, while the more stable and solid remained, forming grand amphitheatres that need only roofs to complete them.

Entering the lower portion, you ascend a series of stairways that hang over the basin of beautiful water below and wind among the odd freaks that one element has played upon another, until you reach the "Mountain House," kept by the polite and obliging E. B. Parsons, Esq., who is also proprietor of the Glen. Weary with the ascent and enraptured with the weird and the picturesque of "Eltance Gorge," you are willing to rest and contemplate the oddities of the seeming romance through which you have passed. But the hospitable Parsons renewed our strength and revived our spirits by a handsome treat to native sparkling Catawba wine, manufactured from grapes grown in the vicinity, and sent us "on our way rejoicing." The amphitheatres, the placid waters in the many basins that the falling waters have worn into the hard rock that forms the bottom of the Glen, the seething caldrons that sit at the feet of the waterfalls or receive the crystal stream as it rushes through tortuous fissures and sends its music echoing through the aisles and apartments of this most wonderful freak of Nature, the winding path you are obliged to follow under dripping overjetting rocks, the entire disappearance of the water at some points and its reappearance at others, the perpendicular character of the walls in some places and their retiring or projecting characteristics at others, the singular formation of each separate apartment, narrow at each end and wide in the middle, several feet lower than the one next up the stream and as many feet higher than the one next down the stream, the different formations, characteristics and thicknesses of the *strata* that decrease in depth and solidity as they approach the top, its wild, wierd, fantastic scenery, the din of its falls that floats a-down its aisles—all—all make Watkin's Glen one of the wonders of

Nature's works, worthy the reputation it has acquired and the sacrifice one makes to see it."

Returning from the Glen to the "Jefferson" hotel, we partook of an excellent dinner, to which we did ample justice with our keen appetites. Champagne, speeches, &c., followed as a matter of course—when the shrill whistle indicated "All aboard!" and we were soon dashing along until we reached Canandaigua, at which point we remained all night and at nine in the morning were on the road to Rochester; remained here long enough to view the Genesee Falls, the fine business marts with their magnificent buildings—some of the party availing themselves of the kind invitation of James Vick, Esq., the famous florist, to visit his floral nursery, located a short distance from the city, and which was then brilliant with fields of gladiolus, zinnias, &c. Mr. Vick has one of the most extensive establishments in this country, and is well known in every section for his reliability and as the editor of one of the most elegant illustrated floral catalogues issued. Our friends visiting Rochester would find much to interest them both at his immense warehouses in the city and his elegantly arranged nurseries. From Rochester we took cars for Niagara, which we reached in due time. The fraternity here divided into squads and visited the many points of interest surrounding these mighty Falls. After remaining two days, and having visited every point of interest, the party, on the morning of Saturday, retraced their steps for home, which they reached on Sunday morning at 10 o'clock.

Upon the conclusion of the excursion appropriate resolutions were offered by W. H. Ruby, Secretary of the Association, and unanimously adopted, returning thanks to the Northern Central Railway Company; to R. S. Hollins, Esq., Secretary of the Company; S. C. Wilson, Esq., Telegraphic Superintendent of the entire road, and Edw'd S. Young, Esq., General Passenger Agent, for unremitting attentions throughout the trip; to E. B. Parsons, Esq., (and his assistant, J. White, Jr.,) the proprietor of Watkins' Glen; to James Vick, florist, of Rochester; to the new Suspension and Goat Island Companies of Niagara Falls; to Mr. Thomas Barnett, proprietor of the Niagara Falls Museum, (Canada shore); to the authorities of the city of Watkins, to the editors and members of the Rochester, N. Y., press, and to D. W. Smith, Esq., of Williamsport, Pa., for hospitalities extended.

GUANO USED IN AUSTRIA.—The following returns for the Austrian empire include the guano used in Hungary: In 1861 it was 12,819 cwt.; in 1862, 13,370 cwt.; in 1863, 18,650 cwt.; in 1864, 35,264 cwt.; in 1865, 45,264 cwt.; in 1866, (the year of the war with Prussia,) 23,846 cwt.; in 1867, 63,446 cwt.; in 1868, 67,684 cwt.; in 1869, 106,514 cwt.

Ladies Department.

MARRIED LIFE.

I twisted round each glossy curl,
I mocked him with my saucy eyes;
"I'm not a woman, but a girl—
I'd rather far be fair than wise!"

"Time is so pitiless," he said;
"Shall time be pitiless in vain?
When youth is fled and beauty dead,
What will remain?—what will remain?"

Laughing, I cried, "Ah! see the foal—
It scours the field; it can't still;
The kitten—little merry soul—
Forever plays; forever will."

The horse is steady, and the cat
As you can wish, I'm sure;
She sits all day upon the mat,
And licks her paws and looks demure.

Oh, let me while I'm young be gay,
Just to be happy never hurts;
When I am old I'll sit all day,
And read your books and mend your shirts."

I let my golden hair run down,
And on the ground its beauty trail;
And as an answer to his frown,
Laughed at him through the shining veil.

[Mrs. Jerningham's Journal.]

CHASING THE CARS.

BY MRS. ANNIE H. FROST.

Did you ever try it? I did once, and what is more, caught them. And just now and here, I am going to tell you how it was done. I had been visiting my sister in Worcester, Mass., and just before leaving to come back to Vermont, had, of course, being a lady, a little shopping to do. My good brother-in-law offered to accompany me carrying my satchel, and otherwise making himself useful and agreeable. Now, you know, that to reach Fitchburg depot, you have only to take a dozen steps out of Main street, down Foster, and there you are. In view of this nearness, we shopped along at our ease, stopping to stare at picture-windows or whatever else attracted our attention.

Now and then a nervous twinge caused me to say "Oughtn't we to hurry?" but I was always reassured by my calmer brother, with, "Oh no, plenty of time!" until having added bunch to bunch, roll upon roll, piece upon piece, to the filling, nay, cramming of my bursting satchel, we leisurely turned Foster street corner, took a few steps, and entered the depot, just in time to see the vanishing rear of the cars. Now I hold that there is nothing in this world so exasperating as that, for, besides the chagrin of disappointment, you feel stung with self-reproach, as, of course, you might have been there in season.

In this dejected frame of mind, I was turning shamefacedly away, intending to sneak back through some by street or other, when my attention was attracted to some inexplicable movements on the part of my brother. Having in my chagrin, forgotten him for a moment, I was suddenly startled to see him darting about in an apparently wild and aimless manner, which seriously excited my fears for his wits. Now here, now there, as though seeking something, he at last brought up in one of the side doorways, within whose bright arch his tall figure stood out in bold relief, and turning quickly around, as having found what he sought, there I beheld him, indulging in a series of the wildest gesticulations, manifestly addressed to me; and through my

bedazzlement, I heard as in a dream, his voice like that of one crazed, calling out excitedly come here! come quick! we'll catch 'em yet!"

Although I was convinced of his insanity, I mechanically obeyed, and felt myself bundled *sans ceremonie* into a species of pung drawn by the sorriest looking beast I ever beheld. One stroke from the driver's long whip, and that poor rack-of-bones started off with the speed of a whirlwind. Wild thoughts of Tam O'Shanter's, Mazeppa's and other mad, weird rides, rushed through my whirling brain, and with a terrible fear that I was being spirited away by two madmen, to some dreadful doom, I grasped out, "what does it all mean?" No answer save a "we'll catch 'em" from my companion and "I've done it many a time and can agin," from the insane driver.

I began to feel my own wits going, as I sat blankly staring at him—his whip-arm moving furiously up and down like a demented pump-handle, to the constant accompaniment of shouts and inspiring exclamation as, "g'long! cl'k! cl'k! g'long!" varied now and then by an encouraging nod at me, which said as plainly as words, "we'll do it yet." What was that beast made of! I expected every moment to see him burst the bonds of cohesion and fall to pieces like Holmes' "shay." But he held together wonderfully and at every fresh shower of blows, rushed on faster than ever.

By and by, as a little breath and a glimmer of reason returned, I began to catch a hint of the truth, and of the figure we were cutting. Imagine the long, bony beast stretching out like a racer—the driver standing up the better to belabor him, robed in a dreadnought buttoned at the throat, whose empty sleeves were frantically flapping in the wind; my brother with a wretched water-proof at his side covered by the flying mud, in which a forlorn specimen of feminine humanity was mercilessly jerked and banged and twisted and shifted about by the roughness of the road and the fury of flight, these two bobbing figures nodding and grimacing at each other like animated puppets, and you will understand the flying open of doors and windows upon either side of the street, the scared faces, the startled pedestrians, the crying children and shouting gamins, cheerful accompaniments of our John Gilpin race. Another rain of blows, one last strain of the quadruped, and with a bang and sudden shock we stop.

I am somehow conscious that we have driven upon a railway track and are close behind a slowly moving car. Somebody thrusts something into my hand. I feel a push from behind, a jerk from before, and with a sudden wrench, in which I am confident something gave way, though whether it was the wreck of the ghostly team "I left behind me," or something in the railway itself, I never knew, I found myself on the rear platform of that moving car which had stopped, according to custom, just one minute and a quarter at Lincoln Square, distant three-fourths of a mile from Foster street depot. A moment after, a remarkable apparition astonished the gentlemen in the smoking apartment. And I'll venture to say, a forlorn specimen of womankind never greeted masculine eyes as, breathless, mud-bespattered and half dazed I stood there, devoutly wishing the hood of my water-proof would kindly cover my conscious face. A compassionate hand led me into the next car and seated me. But it was only after repeated efforts to rouse myself that I succeeded in waking up enough to wonder who I was, and what would happen next.—*The Household*.

THE WESTERN GARDENER.—The first number of this Horticultural monthly has been received. It is edited by Dr. W. M. Howsley and J. T. Lockwood with great ability. Published at Leavenworth, Kansas. Price \$1.50 per annum.

A WORD TO YOUNG WOMEN.

BY MARY E. A. WAGER.

The readiness with which American girls accept the attention of comparative strangers is forever a matter of astonishment to foreigners. It would be as much a matter of astonishment to ourselves if we once stopped to think about it. A gentleman is casually introduced, a lively conversation follows, calls are made next day and for a week to come, rides, flirtations, and love-making entered upon, and oftentimes, after no more than a fortnight's acquaintance, confidences given that not less than half a year's acquaintance should warrant.

A case of this sort of eager intimacy occurred in a pretty inland town not more than three hundred miles from New York, which resulted most disastrously. A young man stopping temporarily in the town saw and fancied a young lady upon the street, ascertained her name, etc., forged a letter of introduction, presented it with himself, and was most cordially received by the young lady and her parents. Walks, rides, and excursions ensued, and in less than a month the two were married. Almost immediately, the true character of the "handsome, agreeable, and intelligent young man" came to light. He was a rascal, a gambler, and had a wife in a distant State. He was arrested, tried for bigamy, and sentenced to Auburn State Prison for the term of five years. The girl died of a broken heart, and her mother, overwhelmed with grief, soon followed her to the grave.

I hate distrust and suspicion, and should be the last to engender such a feeling in any body toward mankind. But I also hate to see girls die broken-hearted, or their lives blasted by the rascality of some heartless, unprincipled villain, when all the evil might have been averted by mere womanly, sensible prudence. A man, whether honorable or dishonorable, admires a girl all the more for the exercise of discretion and care in regard to her associations. It is an established fact that a man may seem to be all that is worthy and desirable, and yet in reality not be fit to step across the outer threshold of an honest man's house, much less permitted to open his abominable lips in courtly speech to an innocent, unsuspecting girl.

Now that the summer has come, and tourists and city-bred fellows are straggling around through the country, let the girls bear this sad story in mind. Be civil and courteous, but don't open the door of your heart to everybody who happens to dress well, and can turn compliments more graciously than the honest and perhaps awkward country boys of your own neighborhood. Be too proud to become a prey to these gormandizers of human hearts, who give gratuitous love-lessons during the summer, and laugh all through the autumn at your wonderful aptness. It is hard and ugly to be so particular, I know, but it pays in the end; and haven't you read, time and again, that all that glitters is not gold? —*Hearth and Home.*

THE TENTH ANNUAL FAIR OF THE FREDERICK COUNTY AGRICULTURAL SOCIETY, will be held on the Fair Grounds, at Frederick city, on Tuesday, Wednesday, Thursday and Friday, October 11th, 12th, 13th and 14th next. This Society has acquired a most enviable reputation for the beauty of its grounds and their surroundings, and the interest of the exhibitions during the past two years. The Baltimore and Ohio Railroad will issue round-trip tickets at half-fare, and will carry freight for exhibition at half rates.

DOMESTIC RECIPES.

OYSTER SOUP.—Put two quarts of oysters, liquor and all, in a pan, set them on the stove to heat but don't let them boil, or come very near to it; now drain all the liquor into your soup kettle, put in a pint of water and two quarts of new milk, half a pound of butter, a little whole allspice and pepper; have the oysters all this time where they will keep warm, add them and salt to taste just as you are ready to serve the soup; break up some crackers fine and put into the soup before the oysters are put in.

Salt should always be put in the last thing in any soup, stew or fricasee, where milk is used, or it is apt to curdle. Oysters should never be boiled but only scalded; it makes them tough and shrinks them all up; if they are to be stewed, heat them hot but don't boil them, always have the soup or gravy hot.

OYSTER STEW.—Put as many good fresh oysters, with their liquor, as you think you will need into a pan on the stove to heat, but not boil. Drain the juice off into a saucepan, as soon as it boils add a half a pound of butter and some pepper; when this boils add a pint of cream and thicken a little with flour; after this boils up once, put in the oysters and more salt if necessary. Serve very hot.

OYSTER TOAST.—The same, only no cream; thicken the juice a little with flour; when the stew is ready have a few slices of toast laid in a dish (well buttered,) and pour the oysters over it. It is best to heat the dish hot that you put your oysters in to send to the table, as they are so much better hot than merely warm.

OYSTER STEW WITHOUT CREAM.—Make in all respects the same as with cream, only substituting half a pint of water for the cream. Many persons prefer oysters stewed in this way.

OYSTER FRITTERS.—Make a batter of milk, flour, eggs, cream of tartar, saleratus, salt in proper proportion. Don't make any thicker than for pan cakes. Drop an oyster into each spoon of batter as you dip it out and fry in hot lard, brown well on both sides.

OYSTERS FRIED.—Drain the oysters well, roll in fine rolled cracker and fry in hot lard and butter, two-thirds lard one-third butter.

OYSTER PIE.—Line a deep basin with puff-paste, fold a large towel and place inside to support the lid, then roll an ornament a piece of paste the same as for a common pie, put on the basin and bake slowly; have an oyster stew made as above, without cream, and fill the basin as soon as the paste is done. Serve immediately.—*Mrs. A. J. Long, in Germantown Telegraph.*

SALT FOR THE PRESERVATION OF BUTTER AND PROVISIONS.—Should be kept in a dry, pure atmosphere. If the air be moist, the salt will absorb moisture and become deliquescent, and if the odors of decaying vegetables and meats and other foul gases pervade the atmosphere, they too, will be absorbed by the salt, which in turn will communicate these poisonous qualities to whatever may be salted with it.

AN EXCELLENT COSMETIC FOR THE SKIN.—Steep one ounce of grated horse-radish in eight ounces of cold milk for two days; strain and bottle for use. It will not injure the skin like most mineral preparations which are used for the purpose.

TO CLEAN MARBLE.—Use white castile soap and water, with the addition of a little ox gall. Acids of all kinds should be avoided as they act upon the marble and destroy it. If the stains are deep, it is well to mix the soap and ox gall with fullers' earth, and cover the marble for a day or two before washing off.

USEFUL RECIPES.

INFLAMMATION OF THE KIDNEYS IN CATTLE.—Cattle are occasionally subject to inflammation of the kidneys, bearing considerable resemblance to acute red water, but attended by more symptoms of pure inflammation of that organ in other animals. At first there are seldom any indications of disease beyond a straining effort in voiding urine, and which is ejected forcibly and in small quantities, the loins being more than usually tender, and perhaps a little hot. In a day or two afterward, the beast becomes dull, and careless about its food, the difficulty of stalling increases; blood is perceived to mingle with the urine; the horns and ears cold, the pulse frequent and hard, and the breathing quickened. Diarrhœa or dysentery is now observed; the evacuations are fetid; they, too, are discharged with effort and in diminished quantities, and at length cease to appear. The difficulty of passing the urine becomes greater, the animal strangely bows its back and groans with pain, and if not relieved, becomes paralyzed behind and dies in three or four days. The treatment consists of plentiful bleeding, active purging, emollient clysters, fomentation over the loins, or an application of a mustard poultice to them, bran mash, gruel and a small quantity of succulent food.

CRIBBING.—Cribbing is induced by confinement and indigestion; therefore, a due amount of exercise and attention to the regulation of diet are the antidotes called for. Where the vice has degenerated into habit, covering the rim of the manger with tin or thin sheet iron may in a measure, counteract the evil complained of.

LAMENESS IN HORSES' SHOULDERS.—Benefit may be derived from the application of Compound Iodine Ointment to be rubbed into the parts twice a day. Should this fail, try a fly blister.

POLL EVIL.—Poll evil results from neglect or abuse. If the opening into the tumor be contracted, enlarge it with the knife; shave away all surrounding hair; wash it with Castile Soap and tepid water, and apply a solution of Carbolic Acid and Glycerine to the part—which will, with attention to the diet and cleanliness, effect a cure.

RINGBONE.—In all cases of early disease of this nature, whether it be periosteal, bony, cartilaginous, fibrous or muscular, cooling lotions, fomentations, light diet, and rest are the means most calculated to do good. In chronic cases we use Acetate Cantharides applied daily until the parts are hot and tender: then substitute cold water bandages, and repeat the process if necessary.

ERYSIPELAS IN HOGS.—The patches on the skin point to morbid changes in the blood.

Ten grains of tartar emetic may be shaken upon the tongue as a vomit; a scruple of saltpetre and 20 drops of tincture of the perchloride of iron may be administered thrice daily in an ounce of water, and cold water may be dashed on the surface, followed in cold weather by active friction. If the difficult breathing shows that the lungs are involved, mustard and turpentine may be applied upon the sides, after bathing them with very hot water. If the spots or patches remain stationary, a favorable result may be looked for.

BIG HEAD IN HORSES.—Every care must be devoted to improving the general health. Let work be regular and moderate. Have the stable clean, dry, and well ventilated. Feed on sound hay and oats either bruised or cooked. Withhold all Indian corn, above all, if raw and hard. Four or five pounds of linseed cake may be given daily. Give every day, in the food, two drams of phosphate of iron, and four drams of powdered gentian.

BRUISED HEELS.—Simple bruises in the heels may be cured by protecting the parts against injury and allowing the corns to grow out. If due, on the other hand, to ossified cartilages, disease of the heels, of the coffin bone, horny tumors formed inside the hoof, &c., they are too often irreparable like the causes on which they depend.

LICE ON COLTS.—Rub them with a lotion containing an ounce of carbolic acid to a pint of sweet oil, repeating it as may be required. See that your chickens are not afflicted with the same lice, and if so, use carbolic acid freely in purifying the hen-roosts, and remove the feathered stock to a safe distance.—*Above from American Stock Journal.*

An old stable keeper in England says he has never had a bad foot on his horse since he commenced bedding on a thick layer of sawdust. Pine sawdust he finds the best, oak the worst.

RECEIVED.

From Herendeen & Co., Geneva, New York, catalogue of Dutch Flowering Bulbs and Japan Lilies for autumn of 1870.

From Mahloon Moon, Norrisville, Pa., wholesale catalogue of Trees, Plants, &c.

From Chas. W. Chancellor, M. D., Annual Circular and Catalogue of the Washington University of Baltimore for the spring of 1870-'71. The Washington University has taken a high rank in the country. The faculty is composed of the most eminent Professors of the South, and the attendance of students large, exclusively from the Southern States.

From Hovey & Co., Boston, Descriptive Catalogue of Flowering Bulbs, Dutch and other Flowering Roots, with directions for culture.

IMPORTANT NEWSPAPER CHANGE.

The HEARTH AND HOME, a finely illustrated family journal of a high character, hitherto issued by Messrs. PETTENGILL, BATES & Co., has been purchased by Messrs. ORANGE JUDD & Co., of 245 Broadway, New York, the well-known publishers of the *American Agriculturist*. Messrs. S. M. PETTENGILL & Co., whose great Advertising Agency, established in 1849, is one of the largest and most reputable in the world, find that their extensive business requires their exclusive attention, and they therefore transfer HEARTH AND HOME to the new Publishers, whose long experience and abundant facilities will enable them not only to maintain the past high character of the paper, but to add materially to its value. The new Publishers also announce a reduction of the terms to \$3 per year. The change will not at all affect the *American Agriculturist*, which will continue on independently as heretofore. The illustrations and reading matter of the two journals will be entirely different. Either of the journals will be furnished from now to the end of 1871 (15 months), at the yearly subscription rate, viz: the *Weekly HEARTH AND HOME*, at \$3; the *Monthly AMERICAN AGRICULTURIST*, \$1.50; or the two for \$4.

The DOLLAR FARMER is the name of a new Agricultural and Family Magazine, published at Louisville and Shelbyville, Ky. Each number is handsomely illustrated. Send 10 cents for a sample copy. Address, Editor of the DOLLAR FARMER, Shelbyville, Ky.

THE ANNE ARUNDEL ADVERTISER.—The first number of a new weekly, published at Annapolis, has been received. It will be devoted to Democratic principles, general news, agriculture, &c. It is gotten up in good style, is edited with ability by Maj. Luther Giddings, and published by Messrs. Tydings and Brewer, at \$1 per annum.

DRAUGHT HORSES FROM EUROPE.—Messrs. Slattery, Russ and McCourtie, of Iroquois County, Illinois, have imported from France five full-blooded Percheron Norman horses, for the improvement of the stock of that county. Their respective weights range from 1,550 pounds to 1,800 pounds, and their height from 16½ to 17½ hands. Mr. James A. Perry, of the same county, has also imported four full-blooded Percherons, and an English draught horse weighing 1,940 pounds at three years old.

THANKS.—To Charles Carroll, of St. Inegoes, St. Mary's County, Md., our thanks are due for a fine lot of Ducks, Chickens and Potatoes, all very useful articles in the family.